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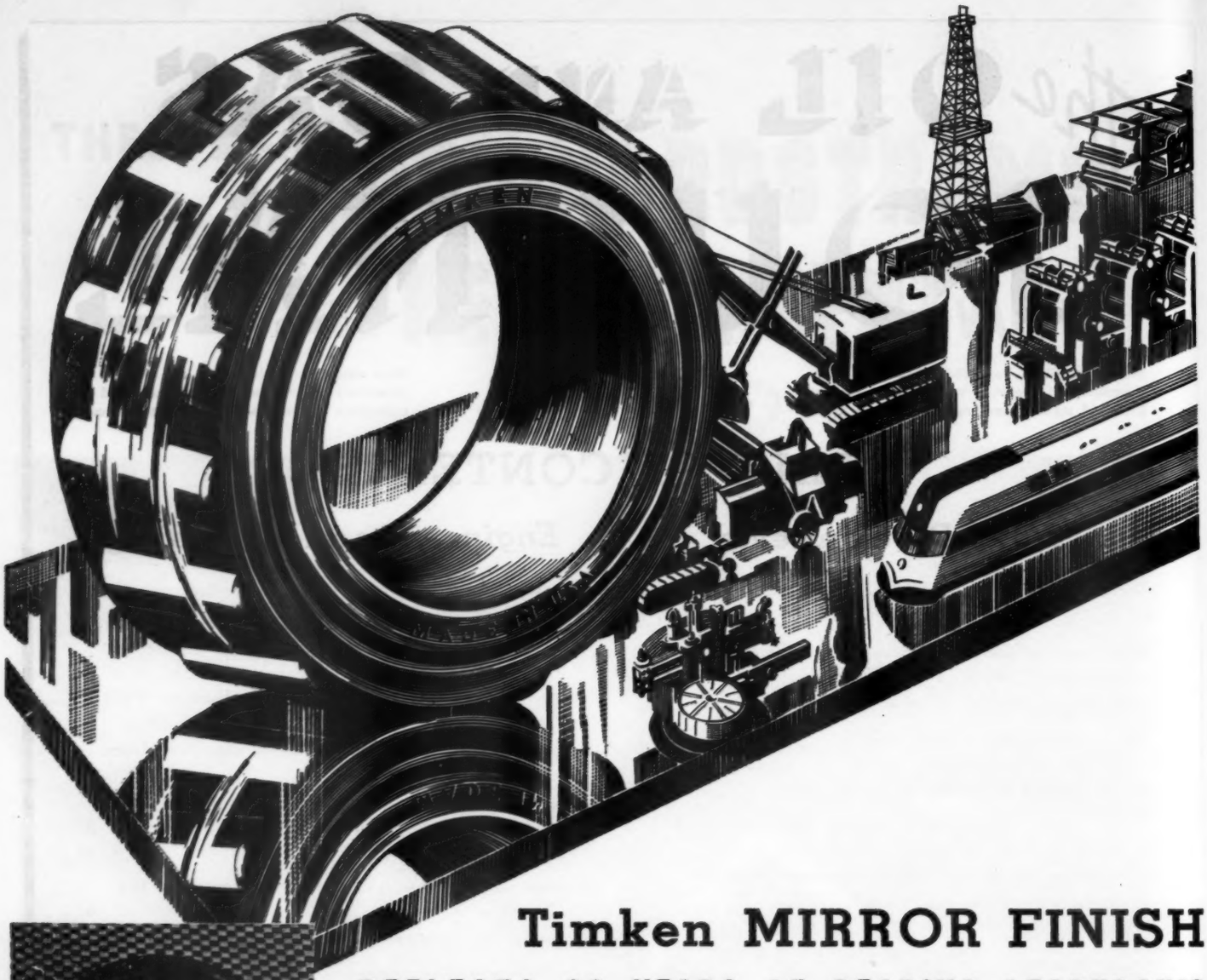

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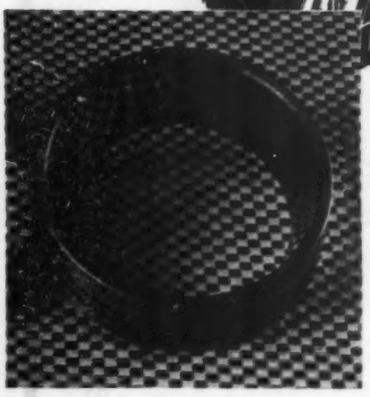

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Immense Producers Close a Busy Year

By JAMES McINTYRE

THE OKLAHOMA CITY, Rodessa and Oxford pools, in Oklahoma, Louisiana-Texas and Kansas, respectively, supplied the biggest news of the week in production. A recently completed well near the governor's mansion in Oklahoma City flowed 6,519 barrels of oil in six hours and another a little farther from the mansion produced 1,860 barrels in six hours. With wells of this kind close at hand it is no wonder that some of the residents in adjacent, but restricted, areas want them thrown open to drilling, with bonuses and royalties in sight sufficient to pay for their expensive houses and lots.

In Sumner County, Kansas, the Oxford pool's Dolomite horizon yielded a 19,000-barrel well to its owners, the Barnsdall and Lario companies. The Reece pool recently opened in Reno County, Kansas, by the Shell Petroleum Corporation, got its second Viola lime producer Tuesday morning, an estimated 4,000-barrel well in section 10-26-9w. It was allowed to flow naturally for four hours, yielding 661 barrels of oil in that time.

The situation in Rodessa, which was opened with a well located in Louisiana less than 2 miles east of the Texas line, is interesting if not disturbing. The extension of the pool into Cass County, Texas, has set up a situation that calls for cooperation between Louisiana and Texas conservation departments. The Rodessa pool on the Louisiana side has a 500-barrel well allowable while the highest new-well allowable in Texas is 100 barrels per day, as it is also in Oklahoma.

Thus far the only order given by the Texas Railroad Commission is a temporary one to run the oil from the Cass County well, the runs to be charged against it when a proration figure has been settled upon. There are 36 producing wells in the Rodessa pool. For the present production must be restricted to pipe line capacity regardless of allowable.

Production 2,837,464

Decrease 26,300

The first commercial production in St. Mary Parish, Louisiana, was uncovered in the past week, the well flowing at the rate of 600 barrels per day through quarter-inch choke.

The Beaverton pool in Gladwin County, 40 miles north of the Mount Pleasant field in Michigan, was made to look good by a 280-barrel well completed in section 11-17n-2w. The pool had been lightly considered since its discovery in 1934. The Oriskany sand in West Virginia yielded its largest gas well since the exploration of that sand began in the southern portion of the Appalachian field. A well in Kanawha County, an old oil field, started at 8,125,000 feet of gas per day at a total depth of 4,931 feet.

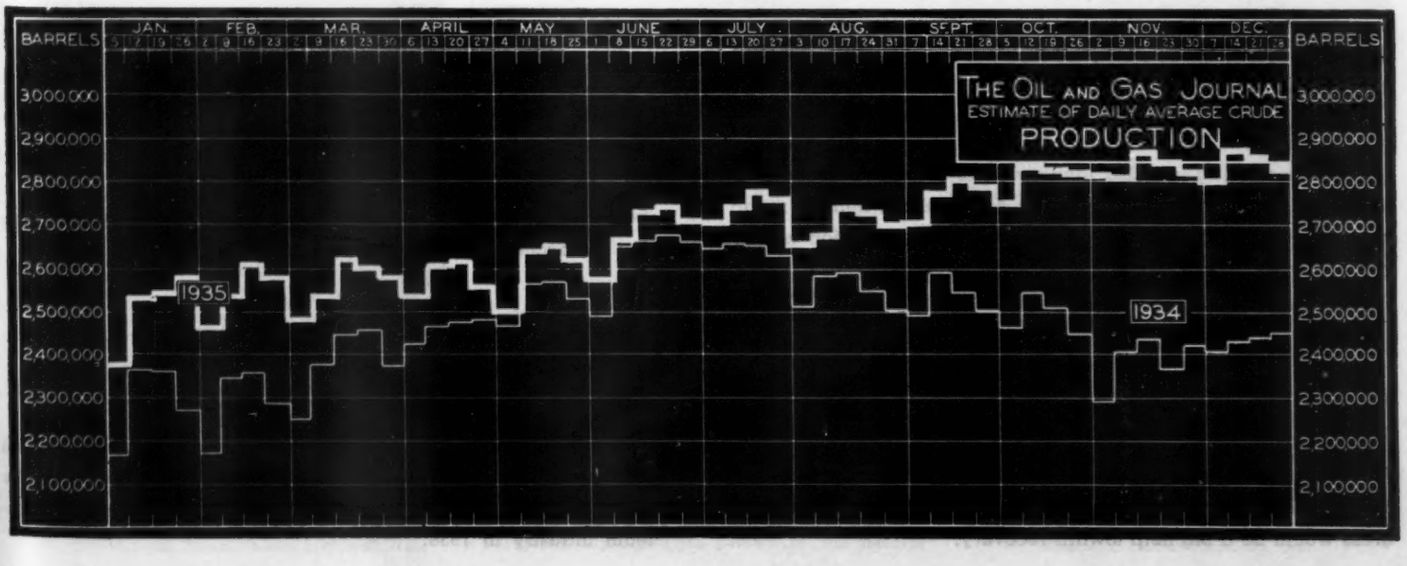
Daily Average Production for Week

	Dec. 28 1935	Dec. 21 1935	Dec. 29 1934
Oklahoma City	111,350	127,200	153,575
Seminole-St. Louis	93,600	93,775	78,675
Remainder of State	271,875	272,125	236,850
Total Oklahoma	476,825	493,100	469,100
East Texas	453,103	448,872	430,689
West Texas	160,297	160,346	149,067
North Central Texas	81,198	81,057	90,608
Texas Panhandle	62,148	65,436	61,157
East Central Texas	49,350	49,555	46,470
Gulf Coast—Texas	211,449	211,437	176,408
Southwest Texas	65,650	65,422	54,623
Total State of Texas	1,083,195	1,082,125	1,009,022
North Louisiana	37,765	39,170	23,890
Gulf Coast—Louisiana	128,550	128,357	85,410
Total Louisiana	166,315	167,527	109,300
Santa Fe Springs	54,500	54,000	38,750
Long Beach	77,250	76,500	57,650
Mountain View	32,500	33,500	11,050
Kettleman Hills	98,250	99,750	58,100
Remainder of State	410,000	413,250	301,450
Total California	672,500	677,000	467,000
Kansas	146,250	148,250	142,750
Arkansas	29,495	29,495	34,310
Eastern Fields	108,000	106,000	103,000
Michigan	42,354	46,047	27,687
Rocky Mountain area	112,530	114,220	93,390
Total United States	2,837,464	2,863,764	2,455,559

Crude Oil Stocks in U. S.

(BUREAU OF MINES ESTIMATES)

Week ending Dec. 21, 1935	298,598,000 bbls.
Week ending Dec. 14, 1935	298,311,000 bbls.
Week ending Dec. 22, 1934	323,736,000 bbls.



Sparks from the News

For the second successive month the Eastern fields led areas east of California in total well completions in November.

A unique experience of many Mid-Continent refiners was that of not having to reduce their year-end gasoline inventories for taxation purposes. They had none to reduce.

Now that we are getting back to a business normal, the old rule in the Mid-Continent that the little crude purchaser makes the price may again apply.

An order has been placed for manufacture of a refrigerator that will operate on kerosene. No limit to oil use possibilities.

Reports that the British government contemplates vast underground oil reservoirs and that other governments may follow have started speculation on what it might mean to the price structure. There are more immediate reasons for optimism.

Twenty-five thousand-barrel wells in Oklahoma and Kansas are bobbing up with frequency sufficient to confound the pessimist with his eye glued on the Colorado shale beds.

Most of the nine state legislatures that meet this month will be expected to do something towards reducing taxation on motorists who are beginning to be really aroused over the discriminatory burden heaped upon them.

The new year begins with 380,000 barrels per day in excess of the beginning of 1934, which means producers' gross income is nearly $380,000 per day greater. A million barrels now is worth $1,000,000 but in 1931 it was worth $650,000, or less than it cost to find and produce it.

The new Venezuelan government has made it plain at the outset that it means to uphold the Gomez oil policy under which the country has prospered.

Ohio's "use" tax bill levying 3 per cent on commodities and tangibles purchased outside the state shows how rapidly the United States is being roped off into sections like Europe. How long will this tax orgy last?

The meeting in Tulsa January 21 of the executive committee of the Mid-Continent Oil and Gas Association when the report and recommendations of the committee on reorganization will be considered will be watched with great interest.

The Texas Railroad Commission suggestion for a joint conference with the Louisiana conservation authorities on regulation of the Rodessa area is in the spirit of the interstate compact.

Fulfillment of those predictions for a short session of congress would be a big help toward recovery.

The natural gasoline market is suffering from an attack of indigestion resulting from overbuying when it was supposed plants in the Texas Panhandle would be closed. A court decision clearing the Panhandle situation would relieve the patient.

Executives of some of the larger oil companies in the East are not as sanguine regarding an increase in crude oil prices early this year as operators in other areas. They claim runs to stills are too high and that production of both crude and gasoline should be curtailed further during minimum consumption.

This "breathing spell" idea is catching. Now Mussolini is explaining that his armies in Ethiopia are having one.

Natural gasoline production in the Rodessa field has doubled since the discovery of oil there early in August. The present output of 45,000 barrels a month will be increased further if two additional plants being considered are constructed. About half the increased production is a result of oil production.

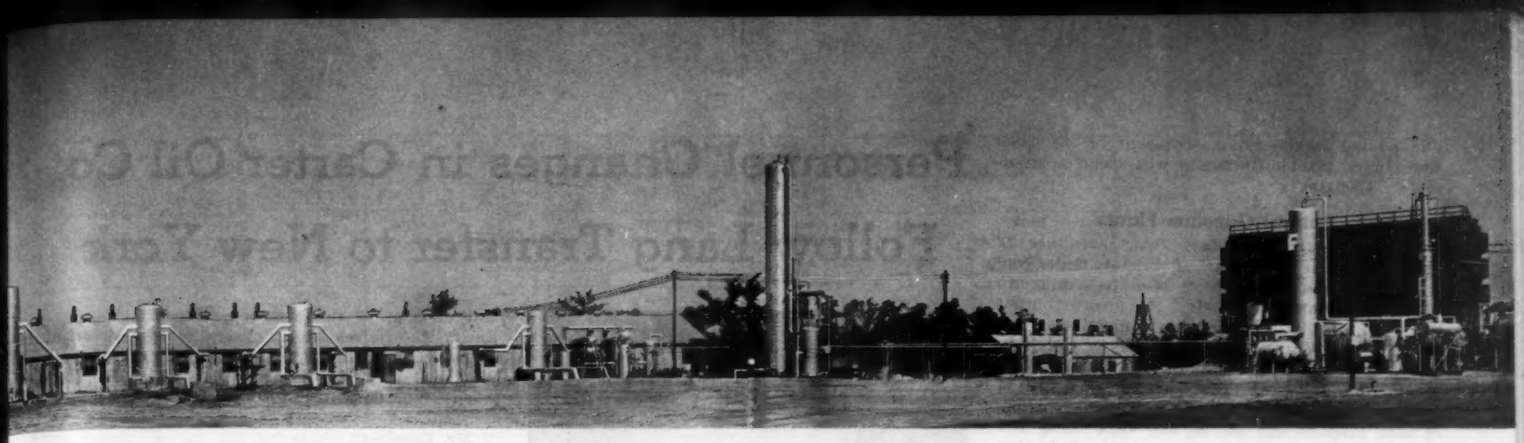
Crude oil producers who expect higher prices early in the new year regard as especially significant the fact a price of $1.25 per barrel f.o.b. Gulf Coast is being offered for East Texas crude this representing a premium of 6 cents a barrel.

California operators are more optimistic regarding success of efforts to curtail production and assert the output there will be reduced to about 630,000 barrels daily within a week or so.

Announcement that the Liberty Pipe Line Company of Houston had raised its price for East Texas crude 25 cents a barrel effective January 1 caused a furore in the field for a time but the excitement soon died down.

Having failed to extinguish the Italo-Ethiopian storm with oil the big powers are now praying for rain.

Securities of leading oil companies closed the year with substantial gains, in some cases establishing new highs for the year, another indication of the improving outlook for the petroleum industry in 1936.



Hanlon-Buchanan, Inc., natural gasoline plant in East Texas, key plant in segregating material for delivery by pipe line to the Gulf Coast

New Pipe Line Will Deliver Butane to Polymerization Unit at Baytown

By W. T. ZIEGENHAIN

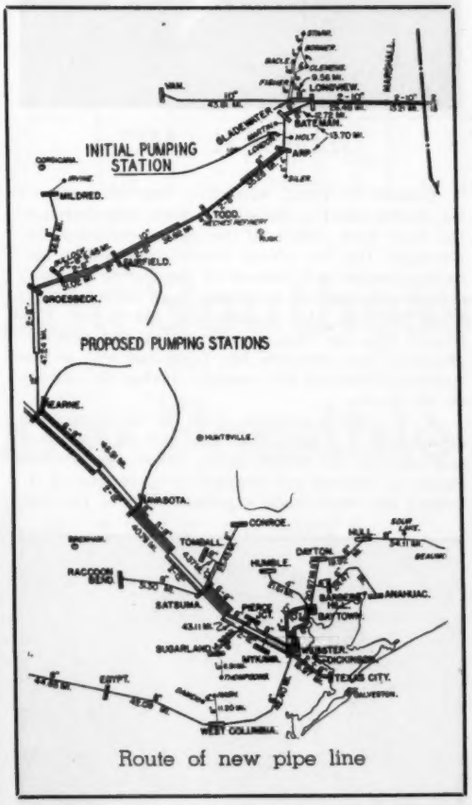
Initiating a practice that may become general throughout the petroleum industry the Humble Oil & Refining Co., Humble Pipe Line Co. and Hanlon-Buchanan, Inc., have joined under contract to extract propane, butane and natural gasoline in the East Texas field and deliver these by pipe line to the Humble's refinery at Baytown where it will be processed to supply charging stock for a new polymerization unit.

Under the arrangement these companies plan to spend in excess of $2,000,000 for new equipment and labor. The plan of operation provides for the addition of extraction and fractionation equipment in the natural gasoline plants of the Hanlon-Buchanan and six affiliated companies within the East Texas field. These plants will be tied together by a new pipe line gathering system to be constructed by Hanlon-Buchanan and it will terminate at a pump station to be built by Humble near that company's natural gasoline plant at London.

From this point the Humble Pipe Line Co. will lay an 8-inch line approximately 200 miles in length to its refinery at Baytown, the path of the new line to follow the existing crude oil lines of the company and portions of the new line will be reclaimed from idle sections of the crude line.

E. I. HANLON

Chairman of the Board, Hanlon-Buchanan, Inc.



Route of new pipe line

Excess Crude Capacity

This move was made possible by the fact the Humble has excess pipe line capacity for crude oil out of the East Texas field and utilization of this excess fits in well with the company's desire to absorb additional supplies of butane and propane as suitable charging stocks for its proposed polymerization unit.

To start with the pipe line will deliver about 9,000 bbls. of 55 to 60 vapor pressure material to Baytown where it will be fractionated, Humble retaining the butane and propane and Hanlon-Buchanan will move its portion of the natural gasoline into the export trade. Facilities for loading will be made available to Hanlon-Buchanan by Humble.

The single pump station to be erected at London will move this volume of material to the coast but as the supply of light fractions is increased pipe line stations will be added, one at Hearne and then at points between Hearne and London and another between Hearne and Webster. Ultimately the line is expected to deliver up to 17,000 bbls. daily.

In the construction of this new line and London pump station the Humble will spend approximately $1,000,000. The line will be welded along its entire course and pressure storage will be provided at the London and Baytown terminals. Construction is to start immediately and the line is expected to be in operation within three months. In laying the 50 miles or more of gathering lines

D. E. BUCHANAN

President, Hanlon-Buchanan, Inc.

and adding fractionating equipment in the gasoline plants, Hanlon-Buchanan will spend approximately $500,000.

Natural Gasoline Plants

Located within the East Texas area are 22 natural gasoline plants, one of which is under construction. These plants have been recovering an increasing volume of gasoline, the present output approximating 7,600,000 gallons a month.

This represents a product which is relatively free of propane and contains a small quantity of butane. It so happens that the gas produced in the East Texas field contains a high percentage of both propane and butane and since these will be recovered along with the normal production of natural gasoline, the volume of the mixture will be somewhere near two and one-half the volume of the natural gasoline alone. Thus, the potential supply, including propane and butane from the present plant operations, approximates 19,000,000 gallons per month in contrast with the 7,600,000 gallons of natural produced alone. This fact is important in justifying the laying of an 8-inch pipe line of this length when the total supply of natural gasoline is still relatively small. Included in the East Texas area are the following natural gasoline plants.

NATURAL GASOLINE PLANTS IN EAST TEXAS

Company—	Location
Chief Refining Co.	Gladewater
Gilliland Gasoline Co.	Gladewater
Gilliland General Crude Oil Co.*	Kilgore
Gladewater Gasoline Co.	Gladewater
Gregg-Tex. Gasoline Co.	Gladewater
Gulf Production Co.	Joiner
Hanlon-Buchanan Inc.	Gladewater
Harmony Gasoline Co.	Gladewater
Hercules Gasoline Co.	Kilgore
Humble Oil & Refining Co.	Overton
Humble Oil & Refining Co.	Kilgore
Kilgore Gasoline Co.	Kilgore
Lawrence Gasoline Co.	Kilgore
Lisbon Gasoline Co. No. 1	Joinerville
Lisbon Gasoline Co. No. 2	Rusk
Marr Gasoline Co.	Rusk
Nine Oaks Gasoline Co.	Gregg
Parade Gasoline Co.	London
Parker Gasoline Co.†	Gregg
Sabine Valley Gasoline Co.	Longview
Sinclair Prairie Oil Co.	Longview
Sinclair Prairie Oil Co.	Wright City

*Under construction. †Shut down.

Market Effect

Those who follow the natural gasoline market in the Mid-Continent feel the installation of these facilities will help the market by removing all excess material that might develop in the East Texas field. They also point out that more substantial benefits will accrue to the natural gasoline industry through the ultimate large scale general demand for light fraction as charging stock for polymerization units. Within a short time other polymerization units will be built at refineries or they might be built in the field where large supplies of wet gas are available. Hanlon-Buchanan, Inc., considered the erection of such a unit within the East Texas area before the more advantageous arrangement with Humble was worked out.

Northwest Petroleum Meetings

Partial preliminary programs for the annual conventions of the Minnesota and North Dakota divisions of the Northwest Petroleum Association have been completed. The North Dakota meeting will be at the Waldorf Hotel, Fargo, N. D., January 13 and 14, and the Minnesota meeting at Ryan Hotel, St. Paul, Minn., January 16 and 17.

L. E. Phillips, former chairman of the executive committee of the Phillips Petroleum Co. will deliver a talk entitled "Can We Pay the Price?" This address will be made at both meetings. N. O. Webber of the Anderson Co., Gary, Indiana, will deliver a specialty merchandising talk to both of the conventions, entitled "A Viewpoint to Automotive Replacements for Distributors of Petroleum Products."

At the North Dakota convention there will be an address by W. J. Flannigan, commissioner of highways of Bismarck, on the road development problem in North Dakota.

Frank C. Berry, director of safety of the Automobile Club of Minneapolis, will address the St. Paul meeting on "The Mile a Minute Boys."

R. D. Marshall of the Williams Oil-O-Matic Heating Corp., Bloomington, Ill., will be one of the speakers at the St. Paul convention, his subject being "Three Times Four."

Personnel Changes in Carter Oil Co. Follow Lang Transfer to New York

GEORGE H. LANG

George H. Lang, executive vice president of the Carter Oil Co., Tulsa, has been transferred to the New York offices of the parent company, the Standard Oil Co. (New Jersey) and other promotions made in personnel of the Carter company effective January 1, according to an announcement made by C. H. Lieb, president of the Carter. J. J. Conry, who has been vice president and manager of production, succeeds Mr. Lang and will be the superior officer of the company during the absence of Mr. Lieb.

F. W. Floyd, assistant head of the production department, has been made manager of production and replaces Mr. Conry as the active executive in charge of drilling and production operations. R. L. Clifton has been made superintendent of the central division of the company, succeeding S. W. Emery who retires after 25 years' service with the company. Mr. Clifton has been in charge of the Oklahoma City division. His place there will be taken by J. K. Ellis, who had been Mr. Clifton's assistant.

J. J. CONRY

Mr. Lang will retain his title as vice president of the Carter and in addition to representing the Carter in business relations with the Jersey company at 30 Rockefeller Plaza, he will assume broader responsibilities and duties in connection with the producing operations of the Standard Oil Co. (New Jersey). Eugene Holman is the active manager of the Jersey company's producing operations and Mr. Lang will assist Mr. Holman in this work. Mr. Lang has been connected with the Carter Oil Co. for 18 years starting with the organization as a scout.

With the departure of Mr. Lang, L. F. McCollum will assume more direct responsibility in the exploration department of the company, Mr. Lang having had charge of that department.

Mr. Lang will remain in Tulsa for a month or so during which time he will visit some of the producing properties of the Standard Oil Co. (New Jersey).

Automobile Production in 1935 Totaled 4,150,000 Vehicles

Preliminary facts and figures regarding the automobile industry during 1935, announced by Alfred Reeves, vice president of the Automobile Manufacturers Association, follow:

Production and Value

Cars and trucks produced in U. S. and Canada	4,150,000
Passenger cars	3,400,000
Motor trucks	750,000
Production, percentage increase over 1934	45
Production of closed cars	3,360,000
Per cent of closed cars	99
Wholesale value of cars	$1,797,800,000
Wholesale value of trucks	$388,700,000
Wholesale value of cars and trucks combined	$2,186,500,000
Average factory price of cars	$705
Average factory price of trucks	$691
Number of tires shipped	50,000,000
Wholesale value of parts and accessories for replacements, and service equipment	$565,000,000
Wholesale value of rubber tires for replacement	$248,000,000
Motor vehicles, accessories, service equipment and replacements for parts and tires	$2,999,500,000
Gasoline consumption by motor vehicles, retail value including taxes	$3,260,000,000

Registration

Motor vehicles registered in U. S.	26,000,000
Motor cars	22,450,000
Motor trucks	3,550,000
World registration of motor vehicles	36,500,000
Per cent of world's automobiles in U. S.	71
Passenger cars on farms	4,134,675
Motor trucks on farms	900,385
Motor vehicles on farms	5,035,060

Taxes

Total motor vehicle user taxes	$1,288,000,000
Gasoline taxes, federal state and municipal	804,500,000
Percentage motor user taxes to all taxes from all sources, federal, state and local	13

Gasoline Consumed

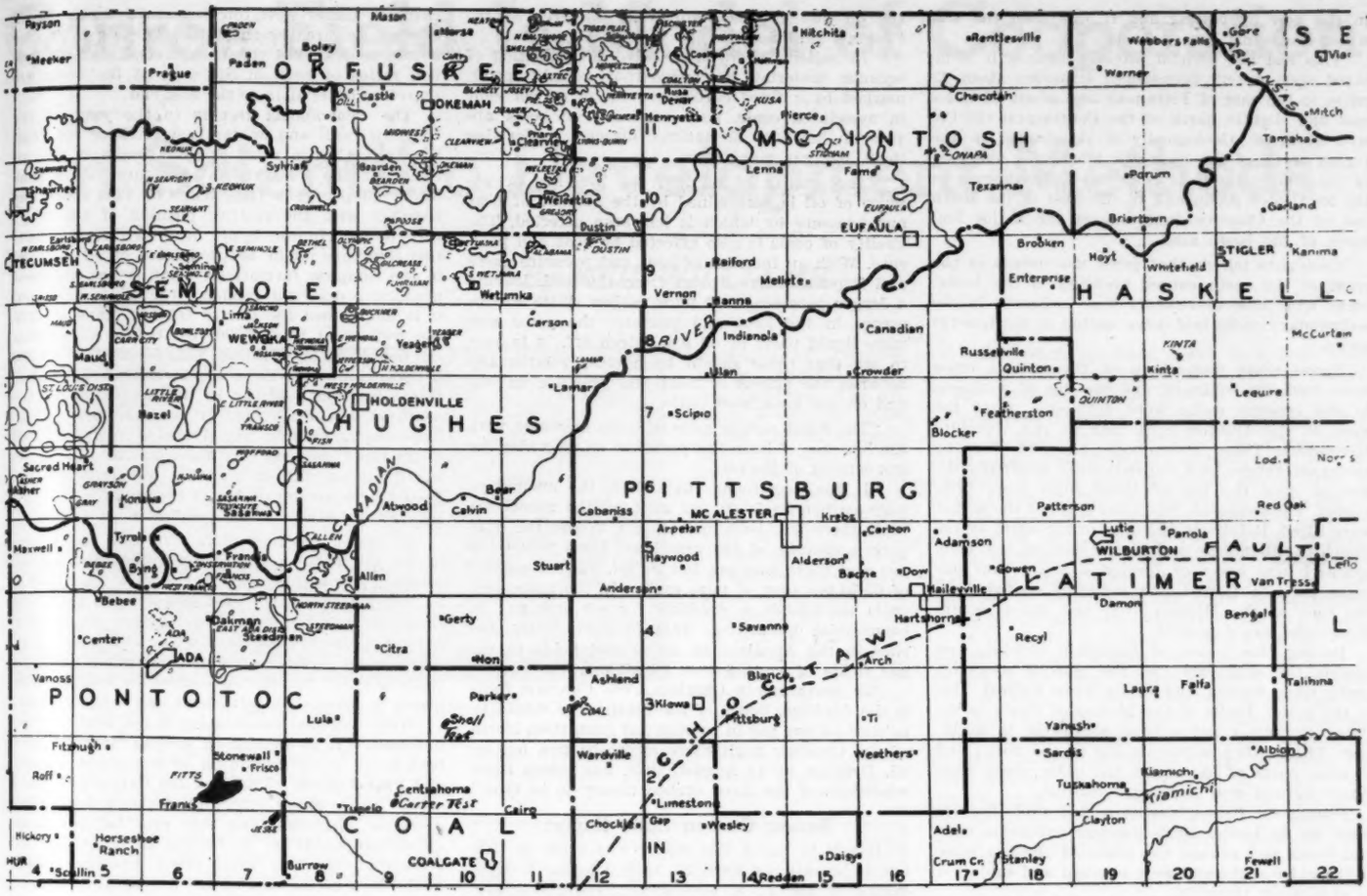
Gasoline consumption by motor industry, %	89
Gasoline used by motor vehicles (gals.)	16,150,000,000
Lubricants used by motor vehicles (gals.)	485,000,000
Lubricants, per cent used by motor vehicles	59

Motor Trucks

Motor trucks in use	3,550,000
Number of trucks owned by farmers (25% of all trucks)	900,385
Fleets of more than 5 trucks, number of operators	28,035
Number of trucks operated in fleets	780,000
Total motor truck taxes	$314,000,000
Trucks represent 13½% of all motor vehicles and pay 24% of all motor taxes.	
Number of truck drivers	2,500,000
Communities served exclusive by trucks	48,000

Motor Buses

Motor buses owned	116,500
Number of buses in revenue service	45,000
Number of buses in local or transit service	18,380
Consolidated schools using motor transportation	22,650
Buses used by consolidated schools	70,500
Buses used by street railways	12,400
Street railways using motor buses	190
Companies in city service including street railways	825
Steam railroads using motor buses	65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Henryetta
Pierce
Checotah
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Texanna
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Wewoka
Bazel
Tyrola
Byng
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Bebee
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Allen
Stuart
Anderson
Savanna
Arch
Blanca
Kiowa
Ti
Yanush
Albion
Kiamichi
Clayton
Adel
Stanley
Fewell
Daisy
Wesley
Limestone
Gap
Chockie
Caney
Tupelo
Coalgate
Burrow
Scullin
Redden
Hartshorne
Recyl
Damon
Bengal
Talihina
Laura
Falls
Sardis
Westhers
Wardville
Ashland
Parker
Shell Test
Carter Test
Centrahoma
Frisco
Stonewall
Fitts
Roff
Hickory
Horseshoe Ranch
Pontotoc
Coal
Hughes
Seminole
Okfuskee
McIntosh
Haskell
Latimer
Pittsburg
Kanima
Garland
Mitch
Tamaha
Whitefield
Hoyt
Brooken
Enterprise
Briartown
Porum
Texanna
Lenna
Fame
Eufaula
Pierce
Henryetta
Clearview
Castle
Boley
Prague
Meeker
Payson

in the hole by bailing and it was then the salt water broke in.

This test has been of interest because it is located upon a very pronounced structure about 12 miles to the east of Fitts pool and about 10 miles east and slightly north of the Continental Oil Co. well at Jesse. Geologically it is situated in the region north of the Ouachita Mountains and east of the Hunton arch. It is in the region known as the McAlester Basin and to the west of the south end of the Choctaw fault one of the major features of the basin area.

Geologists tell us that great movements in the crust of the earth caused buckling in the basial rocks and these movements were reflected in the sedimentary rocks laid down on top of the igneous rocks.

These mass movements of the earth's crust were from the southeast and the line of weakness in the igneous rocks were developed along the axes of the Hunton arch and in the Ouachita Mountains. These areas were elevated, forming mountain ranges and the sediments originally deposited over the top of these folds were later eroded. The sediments along the sides of the arches were tilted. Relatively the land to the north of the Ouachita Mountains and to the east of the Hunton arch was lower or formed a basin. Into this basin the sea flowed and material eroded from the tops of the Hunton arch and the Ouachita Mountains was deposited.

During this period of mountain building and erosion the sediments and the igneous rocks beneath were broken and faults were formed. One of the major faults of the McAlester Basin is the Choctaw fault running from southwest to northeast. These older sediments dip to the north and in some parts of the region the older rocks were thrust up and over younger sediments.

During the Pennsylvanian period while the sea filled the McAlester Basin younger sediments were laid down and around the edges of the sea some of the older sediments were exposed and subjected to erosion or thinning.

While these earth movements were of major character there were many minor movements set up in the sediments and in various places in the McAlester Basin structures were formed which have recently been mapped in detail since oil was found in commercial quantities in the Fitts pool.

The Fitts pool lies in an area which was little affected by earth movements prior to the laying down of the Wapanucka limestone of early Pennsylvanian age. The older sediments of Mississippian, Devonian, Silurian and Ordovician age are therefore little disturbed and the oil and gas that had accumulated in the Ordovician formations remained in place.

This fact having been established by the discovery at Fitts pool, many geologists are inclined to believe other structures to the east and northeast of the Fitts field may be found to still contain gas and oil in the older formations. Because of this opinion many geophysical parties have worked this area to the east of the Hunton arch and to the north of the Ouachita Mountains during the past year and have mapped structures considered favorable for the containing of gas and oil.

There is another geological phase of this problem that many geologists consider of much importance and that is the carbon ratio theory advanced by Dr. David White and in Oklahoma Geological Survey Bulletin No. 40 J. A. Stone and C. L. Cooper discuss the geology of Haskell, Latimer, LeFlore and Sequoyah Counties and have the following to say about David White's Fixed Carbon Ratio Theory with relation to the oil and gas possibilities in the area of the Choctaw fault:

"In regions where progressive devolitization of organic material has passed a certain point, marked by a fixed carbon content of 65 per cent in associated coals, no commercial oil pools are present, nor in formations directly underlying them, but gas may occur.

"The quality of oil and the presence or absence of oil is determined by the amount of heat and pressure by which it has been affected. The quality of coals is also affected by heat and pressure. With an increase of heat and pressure gases and impurities are driven from the coal, leaving a larger percentage of pure carbon. With an increase in the heat and pressure the gases and more liquid parts of oil are driven off. It is easy to see that there should be a close relationship between the effects of heat and pressure on oils and on the associated coals.

"The fixed carbon ratio of coals increases with the increase of heat and pressure, as does also the gas content of the oils.

"It has been found that where the amount of pure carbon is 50-60 per cent of the associated coals there was both oil and gas. Where the pure carbon content of the associated coals was 60-65 per cent there was gas, but no oil. The occurrence of 65-70 per cent of pure carbon in the associated coals establishes a deadline for oil and gas in commercial quantities. This is particularly the case in the Appalachian fields and holds in the gas fields of southeastern Oklahoma.

"In southeastern Oklahoma the Choctaw fault is the deadline. South of the fault there should be neither oil nor gas in commercial quantities. North of the Choctaw fault there might be gas, but no oil. Drilling, up to August, 1929, has shown these conditions of the fixed carbon theory to be true."

Recent Carbon Ratio Report

It will be noted this report was made in 1929 but as recently as April 29, 1935, Thomas A. Hendricks, of the U. S. Geological Survey, has prepared a paper upon "Carbon Ratios in Part of Arkansas-Oklahoma Coal Fields," describing the work of the survey in the McAlestin Basin area. This paper was presented before the annual meeting of the A.A.P.G. at Wichita, Kans., and is published in the July Bulletin of the association. In general, Mr. Hendricks points out that the carbon ratios of the coal found in the west end of the basin north of the Choctaw fault have from 50 to 60 per cent fixed carbon and the sediments there might contain oil and gas. But farther to the east, still along the north side of the Choctaw fault, the carbon ratios increase to as high as 87.5 per cent near Russellville, Ark., and the eastern portion of this area is therefore unfavorable.

This change in carbon ratios is explained by a study of the results of compression of the sediments due first to the thrust from the southeast followed by pressure being applied from the northeast. The compressive force exerted from the northeast on the area north of the Choctaw fault died out as they neared the Hunton arch and the carbon ratios of coal on the west of the basin are therefore lower than to the east end.

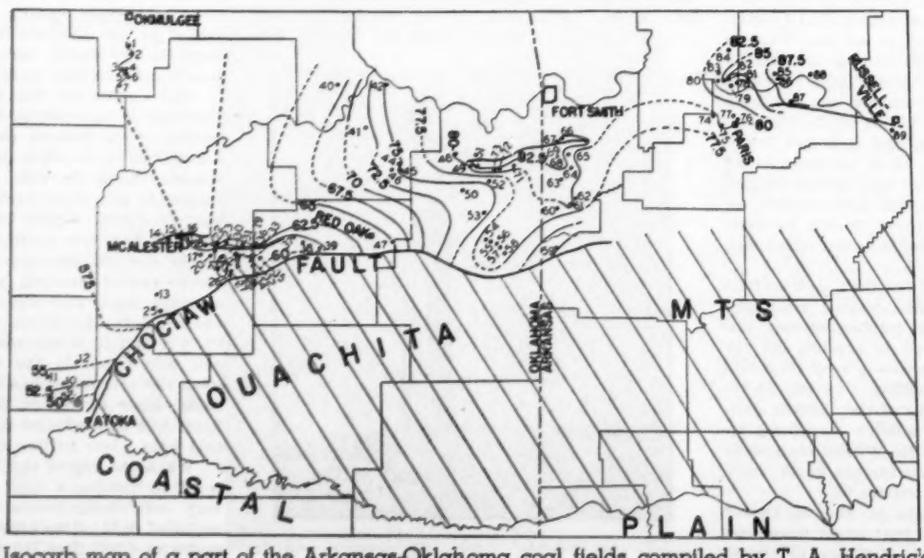
The Centrahoma test is to the west of the Choctaw fault and on the east flank of the Hunton arch. Carbon ratio of coals found in the vicinity of the Centrahoma structure range from 50 to 55 per cent fixed carbon. This condition, together with the relative position of the structure to the Hunton uplift, lead to the conclusion this structure might be productive of oil and gas in the Simpson formations. That it has not been productive does not condemn the whole area and it is understood the Carter Oil Co. plans to drill the well to at least 7,000 feet before abandoning the hole if no oil is found. This deeper hole should penetrate into the Arbuckle formation and where this formation outcrops in the mountains to the south of the Fitts field it is made up of both limestone and sands. The Arbuckle lime contained oil in the Oklahoma City field and in other pools in Oklahoma and it may be productive on the Centrahoma structure, but it remains for the drill to prove or disprove this possibility.

As stated the immediate effect of the failure of the Centrahoma test to find production in the Simpson formation will be to slow up drilling of other similar structures mapped and leased in southeastern Oklahoma. Many of these leases have several years to run and while a few of them may contain drilling obligation clauses it is sometimes possible for the oil companies holding such leases to make cash settlement and delay drilling.

While detailed information is not available for publication it is understood several "trends" have been noted in the alignment of structures mapped and leased in the vicinity of the Carter and Shell tests. These small structures have a northwest-southeast alignment and they may indicate some subsurface condition of folding favorable for oil accumulations. The same effect has been noted in the area to the east of the line of pools in central Oklahoma in so far as structure and sand bodies are concerned but lack of saturation has been the determining factor there and it may play an important part in these undrilled structures in southeastern Oklahoma. If the Simpson formations were deposited in deep sea water or under conditions not favorable to accumulation of source bed material, or in other words are too down flank on the Hunton arch, the chances of finding oil are materially reduced.

It therefore seems quite probable other structures will be tested later as new work gives further clews to the possibilities of finding oil in this area. One such test has already been started by the Shell Petroleum Co. on a 3,000-acre block about 8 miles north and a little east of the Centrahoma test. The Shell acreage is located in section 30-3-10 and will be known as No. 3 Hill as two gas wells are already drilled upon this structure.

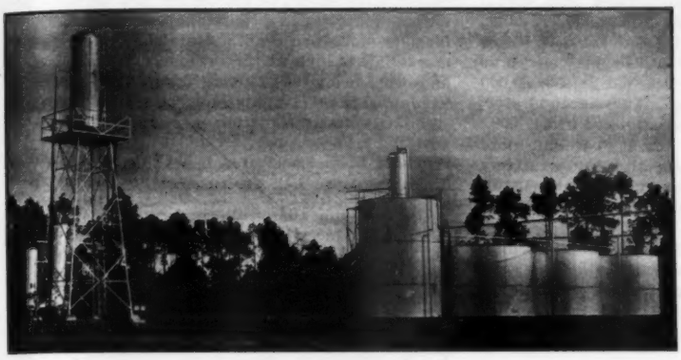
One important thing for the oil industry is the interest now taken in a region formerly practically condemned by geologists and while many conditions in the McAlester Basin may still be looked upon as unfavorable for the discovery of gas and oil the oil men are not overlooking any probable areas since Fitts pool has proved the existence of petroleum in commercial quantities along the flanks of these major uplifts. Surface faults near the Fitts pool have not affected the oil accumulations in the Ordovician formations and this is in itself an advanced step for it has usually been assumed oil and gas could not be retained in formations which fault movements occurred.



Isocarb map of a part of the Arkansas-Oklahoma coal fields compiled by T. A. Hendrick indicating locations from which coal samples were secured, also thrust faults

Conroe Field Is Model of Cooperation in Scientific Development Methods

By NEIL WILLIAMS



Typical separator and lease storage installation in Conroe field

HOUSTON, Tex., Dec. 30.—Starting its fifth year, the Conroe field in Montgomery County, Texas, is reflecting the benefits derived from the scientific methods of development and operation followed in the field since its beginning. The favorable producing conditions which exist, stand out as an achievement of cooperative control and efficient practices.

In the production of the field no high gas-oil ratio or poorly completed wells, or wells which make more than 10 to 12 per cent water, have been allowed to produce. Steps are taken immediately to correct the conditions in any such wells. The field has a definitely defined gas cap or free gas area with the gas-oil contact established at a level of 4,850 feet (subsea depth). The gas-oil contact level became established early in the development, and in most instances in the main producing horizon operators have been able to set their casing below this point so there has been little trouble from this score. The average gas-oil ratio is 700 feet per barrel, including the Upper Cockfield sand wells, which make considerable gas. The Upper Cockfield carries gas over a large part of the main field and the oil is limited to a comparatively small strip around the edges. As the sand is comparatively thin it is difficult for operators to shut off the gas in wells in that horizon. In the Conroe or main sand it has been found when a well is cased below minus 4,800 feet and tubing is set low, generally within one joint of bottom, the rate of flow of the well has little effect on the gas-oil ratio, which is maintained comparatively low. Wells in this sand generally can be corrected easily to remedy any high gas-oil ratio situation.

It has been computed that the original free gas contained in the gas cap amounted to 350,321,670,035 feet. The field at present is producing about 890,000,000 feet monthly, or between 27,000,000 feet and 30,000,000 feet daily. Oil production has been prorated to between 38,000 and 40,000 bbls. daily. Eighty-five per cent of the gas is being processed through the two gasoline plants, one operated by Humble Oil & Refining Co. and the other by Midland Gasoline Corp. The remainder is being used for field purposes. Approximately 6,000,000 feet daily of the residue gas from the gasoline plants is being taken by United Gas Co.

To date 880 producing wells have been completed. When drilling of the Upper Cockfield sand is complete with the addition of between 70 and 80 wells there will be a total of between 950 and 960 wells. Drilling was started on a basis of one well to 20 acres, and with a few exceptions, necessitated by irregular tracts, that program has been followed. The average density of wells in the Conroe, or main producing sand, is one well to 18.9 acres. The Upper Cockfield sand area, where development is not complete, has an average density of one well to 60 acres at present, but with completion of the drilling program the density is expected to figure close to one well to 20 acres, as in the main Conroe sand. Although there are a few wells on smaller tracts, the majority of exceptions to the 20-acre spacing plan are on tracts not under 18 acres.

One of the few wells on artificial lift in the Conroe field. It is electrically powered

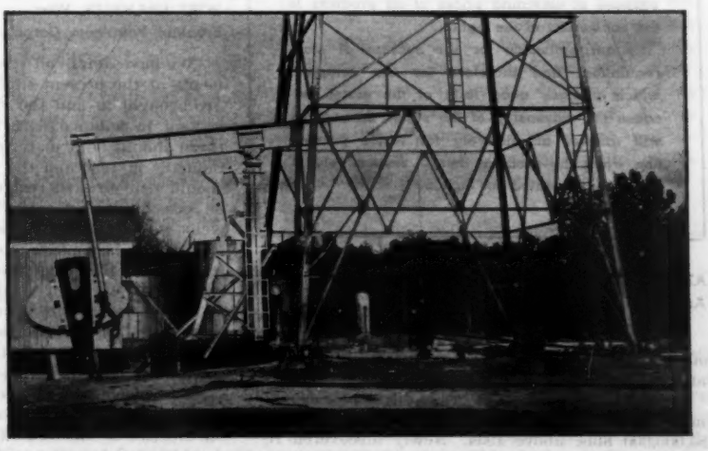
This consistent adherence to a regular spacing program is expected to facilitate uniform withdrawal of oil from the Conroe reservoir. Production of the Conroe field to December 1, 1935, totaled 55,628,355 bbls. The efficiency with which this has been withdrawn is indicated by a decline of only 192 pounds in the reservoir pressure. The original reservoir pressure was 2,275 pounds at a subsea datum of 4,800 feet. The average bottom-hole pressure on the same basis December 1 was 2,083 pounds. This figures out a drop of only 3.45 pounds per 1,000,000 bbls. of oil produced.

A very accurate check of reservoir pressures has been kept at Conroe. Originally pressures were taken of all wells but when the field began to assume sizeable proportions, taking of pressures was limited to key wells strategically located.

Reservoir pressures now are taken in 85 key wells at intervals of 60 days. A plan, which takes into consideration computation of the weighted average pressure of the entire field, is being followed. So far as known this plan is not used elsewhere. In other fields, the pressure reported is no more than the average pressure of those wells in which pressure readings are taken. In the Conroe plan, the pressure computation is believed to be more representative of the actual pressure of the reservoir as a whole.

In computing a weighted average for the field, the grid method is used. A map of the field is divided into a large number of grids, or sections, each including a known amount of acreage, accurately calculated. When the pressure readings are taken, the acreage of those grids, or portions of grids, around the nearest of the respective key wells is taken into consideration. In this the number of acres around each key well is multiplied by the pressure of the key well; the results are added and the average pressure computed from that total.

To insure accurate pressure reports, operators are careful in every detail of the procedure. Participating companies cooperate in starting and ending pressure checks at the same time. Key wells are shut in for 24 hours prior to taking the pressure in order that the pressures of the respective wells might be equalized and be as nearly static as possible. Five pressure instruments are used, including two Amerada and three Humble instruments. All are run into a common well first for calibration of the instruments. Following completion of the pressure taking all are rerun into the same original well to recheck their calibration. In actual taking of pressures, the instruments are left in the respective wells 10 minutes to allow for adjustments in temperature. Pressures are taken as close to the bottom of the tubing as safe to run the instruments. Fluid weights are taken at various levels in the hole. All these readings are taken into consideration in figuring the actual pressure at the bottom of the hole. This pressure figure is calculated back to a subsea datum of 4,800 feet as a correction factor. Shut-in casing and tubing pressures are recorded in each of the key wells as the instruments are taken from the wells.



Salt water trap and well hookup in Conroe field

New Year's Outlook f

as Interpreted by F

JAMES V. ALLRED
Governor of Texas

We need no further congressional enactment upon the subject of oil and gas production control. We now have a federal law that prohibits the movement in interstate commerce of these products where illegally produced within the states.

As to the fear of oil shortage, we have had periodically conflicting views expressed upon this subject by persons who appear to speak with authority. Conclusions, however, in all cases, conflicting as they do, are traceable to the individual whims and desires of the estimators themselves. In 1925, President Coolidge called upon the leading oil executives of the nation to appraise the visible oil reserves of the United States. Estimates came forth showing six years of oil supply in the nation. I read a short time ago in the press that the American Petroleum Institute had estimated the supply of oil in the United States as safely stated at 25 years. It appears to many oil men who have expressed themselves, and I believe honestly, that the supply of petroleum in the United States will outlast the requirements of petroleum as combustive fuel, its chief utility.

Believing as I do that any production control movement, though it be in the interest of conservation of resources, must of necessity guard the interest of the consuming public, I repeat what I said to the governors of the oil states assembled at Dallas when the compact was drawn, that at no time should the compact or its administration be used for the purpose of elevating prices of oil products to the consumers of the nation.

I am optimistic for the success of state regulation, and therefore for the compact, which pledges good faith of the states because the citizenship of the states themselves will answer affirmatively for waste prevention when the problem therein respectively is properly presented for action.

AXTELL J. BYLES, President
American Petroleum Institute

The important question today is not how much oil we have, but how to make the fullest, wisest and best use of what we have.

Domestic production of crude oil in 1935 is estimated at 903,200,000 bbls., or slightly more than 84,000,000 bbls. above 1934. Newly discovered reserves promise a yield greater than the year's actual requirements. The volume of crude oil run to refinery stills to be transformed into useful refined products is estimated at 966,350,000 bbls., or more than 70,000,000 bbls. above 1934. Motor fuel production rose to 459,600,000 bbls., and it is estimated that consumption reached 18,150,000,000 gallons, a new all-time record. Above-ground storage at the end of the year is estimated at 311,000,000 bbls., the lowest of any recent year and more than 100,000,000 bbls. below the comparatively recent peak. Crude oil prices, based upon Mid-Continent 36 gravity, generally remained at the $1 level reached in 1933.

The petroleum industry is maintaining a high rate of employment, a liberal wage scale, and good working conditions. It recognized the necessity of keeping its operations in line with the requirements of sound economics and of practical conservation.

BURDETTE BLUE, President-General
Manager Indian Territory Illuminating Oil Co.

One outstanding evil of early proration was discriminatory takings by large purchasers who were in a position to buy from pools where they had their own production, and this in some cases over a considerable period of time and to the virtual exclusion of other pools where those purchasers did not own production. This condition has been largely remedied because of a more intelligent comprehension of the fact that proration will not endure unless it is fairly and equitably administered. This suggests that congressional legislation may be necessary to restrict imports—domestic producers should not be asked to pinch their wells in to practically nothing at all while large amounts of imported oil are being brought into the country.

There should be an increase in crude and gasoline prices. There is more reason for higher priced crude under proration than there would be if wells were produced wide open. There are many cases of wells capable of producing in excess of 20,000 bbls. per day which wells because of drastic proration, did not over periods of time earn normal interest on the actual well investment, to say nothing of taxes, lifting costs, etc.

Oil reserves may be low in some localities, and future oil reserves may be disproportionately held, and some units may shortly find themselves unable to secure needed supplies of oil. But the consumer and the public have no cause for worry for some time to come.

WIRT FRANKLIN, Wirt
Franklin Petroleum Corp.

We have ample oil reserves to meet our requirements at the present time and if no new big fields are brought in and the supply of crude petroleum is kept in balance with the consumptive demand, there should be a material improvement in the oil industry in 1936 and the price for crude petroleum should tend toward reaching a point where it will be possible to operate the majority of pumping wells without a loss. This is going to be necessary to prevent premature abandonment of wells and to conserve the large reserves of crude petroleum lying under wells of small and settled production.

An earnest effort should be made during 1936 to get all oil-producing states into the Interstate Oil Compact, and in addition to that, it is essential for a complete program that federal legislation should be enacted restricting imports to 4½ per cent of the consumptive demand as estimated by the Bureau of Mines, and the Connally hot oil act should be made permanent. In addition to this, the exemption of imports for supplies for vessels from excise taxes should be eliminated and the discrimination against domestic asphalt on public works must be done away with. Unfair practices in the marketing branch of the petroleum industry, such as selling below cost, giving rebates, etc., must be eliminated if proper progress is to be made towards stabilization of the petroleum industry.

WILLIAM BELL, President
National Stripper Well Association

In surveying the prospects for 1936 the stripper oil well producer shares with other producers in the belief that if left free from governmental control the industry will go ahead successfully.

Last May, when N.R.A. was declared unconstitutional, it was believed by certain government officials and others that with the passing of the N.R.A. petroleum code chaotic conditions would soon prevail in the oil industry. The contrary has happened. The industry is going ahead on an even keel enjoying some degree of prosperity and serving the public better than ever.

Control of oil proration should be left with the states with their Interstate Oil Compact and the federal government confine its efforts to the control of imports and the enforcement of laws affecting illegally produced oil in interstate commerce.

The stripper wells (wells of small settled production) constitute 75 per cent of all producing wells in the United States and the reserves they represent (oil still in the ground in the old fields) are by far the greatest of our known reserves.

It is of the highest importance, therefore, that these small wells be preserved to enable recovery of the oil in these old fields and this can only be done if conditions are so stabilized as to make it economically possible to continue these small wells in operation.

W. S. FARISH, Chairman
Standard Oil Co. (New Jersey)

With all its difficulties, regular and special, it can fairly be said that the oil industry made a satisfactory record in the past year. It made real progress towards solving its greatest problem—that of achieving a balance between production of our raw material and the actual current consumer demand. Some crude oil was taken out of storage and inventories generally were reduced. Statistically, therefore, we will move into the year 1936 with a satisfactory position.

The situation has improved to a point where it is clear that there is no need for the passage of more oil legislation at the forthcoming session of congress.

It is my belief, as well as my hope, that the oil states' compact will be perfected next year and function with reasonable success. If California and Louisiana align themselves with the other states to work under this compact there will be little or no wasteful production.

At this writing production is probably in excess of the present demand. This is reflected by the running of more products through the refineries than are needed this winter. That is to say, the producer is finding a demand for all his crude as produced, but the refiners are carrying ahead part of each day's production in the form of gasoline. It is a usual thing for the industry to add considerably to stocks of gasoline starting in the late fall and continuing through the winter. However, recent reports indicate that it is accumulating gasoline a little too rapidly at the present time.

Due to curtailment, production and imports of crude during 1935 did not meet the demand except

for the Oil Industry

Representative Men

in California where, because of recent overproduction, there was a slight addition to stocks of crude and products (about 500,000 bbls.). East of California, stocks of crude and products were reduced considerably (17,500,000 bbls.).

Our reserves of oil are not dangerously low, as some prophets of scarcity would have the public believe. On the contrary, the oil in sight is sufficient to meet all demands, and with new discoveries coming in regularly, the prospects are that for some years ahead our proven reserves will be adequate for all demands. Figures for recent weeks are not complete but it is likely that in 1935 the industry discovered more new oil than it produced in that period. A further increase in consumption next year is in sight, but I do not anticipate radical changes in either crude oil or gasoline prices.

BAIRD H. MARKHAM, Director
American Petroleum Industries Committee

Taxes on petroleum products and operations, paid by the industry and its customers in 1935, are estimated at close to $1,125,000,000, or equal approximately to the industry's annual pay roll.

Without including the unreported additional taxes upon gasoline imposed by some counties and municipalities, the consumer in 1935 paid a total gasoline tax bill approximately of $770,000,000. This sum exceeds one-third of the estimated $2,459,000,000 total retail value of the more than 18,000,000,000 gallons of gasoline consumed in 1935.

Giving consideration to the fact that the average price of gasoline in 1935 was only 13.55 cents per gallon, while the average state and federal tax was 5.29 cents, it may be seen that these levies were, in effect, a retail sales tax of nearly 40 per cent. In some states taxes on gasoline were equivalent to 100 per cent of the retail price. In virtually every state they were 100 per cent, or more, of the wholesale price. Their collection cost the industry an estimated $22,500,000.

FRANK PHILLIPS, President
Phillips Petroleum Co.

As to the coming year—potential supplies of crude oil are still excessive, and continued regulation and proration of its production are essential. The Interstate Compact presents a means to this end, which may be very helpful, if the producers and the commissions of the compacting states will consider the problems in an intelligent spirit of cooperation.

Refiners, having learned that a substantial reward results from adjustment of their activities to balance supply with consumptive demand, may be expected in the coming year to follow that program. Conferences looking to the elimination of unsound marketing practices are continuing.

ERNEST O. THOMPSON, Chairman
Texas Railroad Commission

Nineteen thirty-six will see the all-time peak in consumption of oil products. It will probably be 6 per cent over 1935.

Withdrawals from storage can continue to the extent of only about 50,000,000 more barrels. After that current consumption must be met with current production. Nineteen thirty-six will see this happy event take place.

Great prosperity is in store for the oil business in 1936 in every phase of the industry. Texas will be called upon to fill an ever increasing demand for this much needed oil. We will be ready to supply it.

No new oil legislation is needed in Texas either state or federal. Complete cooperation by the industry with state regulatory bodies should be the watchword of 1936.

EDWARD G. SEUBERT, President
Standard Oil Co. (Indiana)

In looking forward to next year there are perhaps some factors which had better be carefully weighed. Presidential election years have often not been the best for business. We can only hope that 1936 may prove an exception.

I believe the industry would be glad to drive ahead for the time being without further oil legislation by congress unless it be to remove some of the extraordinary tax burdens to which it has been subjected. The Oil States Compact should preserve the necessary authority over the apportioning of oil production.

Great progress has been made in recent times both in methods of locating and producing oil and in utilizing it more effectively. Reserves are in sight for many years, and by the time they are gone the industry will have perfected methods of providing at reasonable cost suitable substitutes which are already well known.

ALF M. LANDON

Governor of Kansas

The petroleum industry is to be congratulated on its achievements and accomplishments which have made possible the splendid outlook for this business, so vital to the welfare of our nation as a whole and to millions of our citizens. Better prospects for 1936, so evident in all branches of the oil business, are well deserved. Throughout the depression the petroleum industry maintained its employment at an exceptionally high level and its vast buying power has been a most important factor in maintaining employment and aiding conditions in many other industries.

I deem of especial importance at this time the better understanding which has developed not only among oil men in their dealings one with the other but between the oil business and state officials and state regulatory bodies whose duties bring them into close contact with oil men and their problems. Much along this line was accomplished during the past year and this cooperative spirit and willingness to give more careful consideration to the other fellow's problems and views augurs well for a more equitable solution of matters relating to this business which will arise in the future.

E. W. MARLAND

Governor of Oklahoma

The present statistical position of the oil industry is the best which has existed for several years. With stocks of crude oil the lowest in 12 to 14 years, with refined products at the lowest point in several years, and with an estimated increase of 9 per cent in the current consumption of gasoline for January, 1936, as compared with January, 1935, the year 1936 should establish a new record for gasoline consumption and crude oil production.

I have been asked the question several times, "What is the Interstate Oil Compact?"

Interstate compacts have been entered into between states for many different purposes. All such compacts require the ratification of the state legislatures and the approval of congress. Some 50 or 60 such compacts had been approved prior to the Interstate Oil Compact. The Boulder Dam was provided for and constructed under an interstate compact between the states affected or deriving benefit therefrom.

The Interstate Oil Compact is an agreement between the member oil-producing states approved by their legislatures and ratified by congress for the sole purpose of assisting the oil-producing states in working out a common problem for the conservation and greatest ultimate recovery of one of the nation's greatest natural resources. At present the main objectives of the Interstate Oil Compact Commission are to bring about the adoption of uniform conservation statutes within the oil-producing states, for the prevention of waste, and the orderly production and the greatest ultimate recovery of oil possible from the pools within the various states, thereby preventing waste in the production of crude oil and guaranteeing to the nation and the consuming public an adequate supply of crude oil over the longest possible period of time, and endeavoring towards uniform taxation of the industry within the oil-producing states.

Pipe Line Progress

Sinton Starts the Construction of a Line From Plymouth

HOUSTON, Tex., Dec. 30.—Sinton Pipe Line Co. has started construction of a 6-inch welded line from the Plymouth field of San Patricio County, to Texas Pipe Line Co.'s loading terminal at Corpus Christi. The line will be laid under contract to Fredell Construction Co. and will be 17 miles long. Plans also contemplate extension from the Plymouth field to Refugio, approximately 20 miles, where the line will connect with the Texas Pipe Line Co.'s 6-inch line from Greta to Refugio. At present the oil which is run by the Texas Pipe Line Co. from Greta to Refugio is taken by the Humble Pipe Line Co. to the latter's terminal at Harbor Island. The line from Plymouth to Corpus Christi will be the second in the field, the other being a 6-inch line laid by the Republic Pipe Line Co. last summer which takes oil from Plymouth Oil Co.'s leases—the new line will take oil from the Heep Oil Corp.

Hearings on Grand Rapids Lines Set for January 20

MUSKEGON, Mich., Dec. 30.—Hearings on petitions of three Grand Rapids, Mich., concerns seeking permission to lay pipe lines from the Millbrook-Hinton-Belvidere Townships gas field of Mecosta and Montcalm Counties to serve Grand Rapids will be held in Lansing before the State Public Utilities Commission on January 20.

The companies vieing for the privilege to serve Grand Rapids, largest Michigan city yet considered for natural gas include Grand Rapids Gas Light Co., subsidiary of American Light & Traction Co., Western Michigan Pipe Line Co. and General Gas Transportation Co.

The Western Michigan company is headed by Joseph H. Brewer, Grand Rapids, prospecting to operate as a public utility taking gas from any operator in the field at a price to be approved by the state commission. This line would be a feeder for the present distribution system of the Grand Rapids Gas Light Co.

General Gas Transportation Co. was organized by a group of Mount Pleasant operators holding large acreage; Grand Rapids Gas Light Co. also claims to have reserves of 10,000,000 feet under contract and proposes to start service with mixed natural and manufactured gas later changing to 100 per cent natural when new reserves are proved. The company has closed a contract with Pure Oil Co. for exclusive rights to all gas produced on tracts covering 62,000 acres held by Pure.

Some criticism has been voiced in Grand Rapids against the 50-50 mixture and with regard to rates. It would require about $500,000 to lay the proposed 10-inch line.

Obstructing Pipe Line

MUSKEGON, Mich., Dec. 30.—Landowners in the Millbrook-Hinton-Belvidere Townships gas field in Mecosta and Montcalm Counties, the largest gas producing area in Michigan, recently sought help from State Highway Commissioner Murray D. Van Wagoner to block the Consumers Power Co. from building a $500,000 line to Lansing.

The farmers have refused to grant right of way across their properties and now seek to prohibit the company from gaining permission to follow state highways, it was explained by Elgin Crane, secretary of the landowners' association formed to oppose the Consumers' project.

The farmers are seeking a higher price for their gas at the well than the 12 cents to be paid by Consumers through Petroleum Transportation Co. gathering line. They want at least 15 cents per 1,000 feet at the wells.

Long Lake-Dallas Line

FORT WORTH, Tex., Dec. 30.—Gas from the Long Lake and Cayuga fields in Anderson County, was turned on to Dallas and Fort Worth gas consumers on the morning of December 26 when the thermometer fell below freezing. This gas is coming through the 20-inch gas trunk line just completed from the fields to Irving station.

Hugoton Extension

HUGOTON, Kans., Dec. 30.—A 24-inch line is to be laid this winter from Stevens County to the booster station near Mullinville, there to be tied in to the Northern Natural Gas Co.'s line that extends from the Texas Panhandle to Minnesota. Work is to be started early in January.

Project for 187-Mile Gas Line to Saskatchewan Cities

REGINA, Saskatchewan, Dec. 28.—Regina interests have incorporated Prairie Gas Utilities Syndicate, Ltd., at Regina for the purpose of supplying natural gas from the Bowdoin field in northern Montana to various Saskatchewan cities. The project involves construction of a 187-mile transmission line from the Bowdoin field, where the syndicate holds 54,000 acres of fee lands and 42,000 acres of government lands under lease.

Prairie Gas Utilities Syndicate, Ltd. is incorporated for 100,000 no-par shares of which 37,210 have been issued. The officers are: President, George C. Rooke; chairman of the board, Wilfrid C. Mills; vice president, Maurice L. Fitzgerald; secretary-treasurer, Lester M. Small; directors, Messrs. Rooke, Mills and Fitzgerald and J. C Boyle, W. D. Craig, Dr. H. L. Jackes, W. R. MacKenzie, H. F. Thomson, J. M. Broderick, J. C. Malone, Dr. J. G. McMurtry, R. G. Waddell and W. J. Ward, all of Regina. H. R. Davis of Buffalo, N. Y., is consulting engineer and E. B. Emrick of Conrad, Mont., is consulting geologist. British-American Syndicate, Ltd. has been incorporated as a United States subsidiary.

In addition to the transmission line, the construction work involved will include complete distributing systems for all communities to be served. It is probable efforts will be made to secure franchises not merely for Regina and Moose Jaw in southern Saskatchewan but for Saskatoon and other communities in the central and northern sections of the province.

Several efforts have been made in the past 10 years to secure natural gas franchises for Regina and other Saskatchewan cities. Earlier projects contemplate the marketing of natural gas from Turner Valley, Wainwright, Kinsella and other Alberta fields. Commercial natural gas production has since been developed in the Lloydminster field of west-central Saskatchewan. A portion of this production is marketed to Lloydminster, but additional drilling has developed a considerable gas reserve which the companies interested are planning to pipe to Saskatoon and intervening communities. The extent of the Lloydminster field, and its probable life, are still undetermined. Drilling is also being started in southwestern Saskatchewan near Walsh, Alberta, and also on the Blackfoot structure near Regina, with a view to developing a supply for Regina and Moose Jaw.

May Construct New Pipe Line

It is reported M. J. Grogan, head of the Rodessa Oil & Refining Co., is planning the construction of a pipe line into the Rodessa field, intending to pipe the oil to the recently remodeled plant of the company in Cedargrove.

Fire Destroys Two Tanks in Naph-Sol's Muskegon Plant

MUSKEGON, Mich., Dec. 30.—Muskegon's most disastrous oil fire destroyed two 25,000-bbl. tanks of cracking stock and crude oil at the Naph-Sol Refining Co. plant here today and for a while this afternoon threatened the entire plant.

Fire of an unknown cause broke out at 1:30 a.m. and was battled for 16 hours in temperatures from 14 below rezo to 14 above before local firemen augmented by scores of W.P.A. workers brought it under control. Damage was estimated by company officials as being about $100,000. Operations of the skimming plant were resumed this afternoon, but a new $225,000 Dubbs cracking unit remained shut down. The plant has a daily skimming capacity of 2,500 bbls.

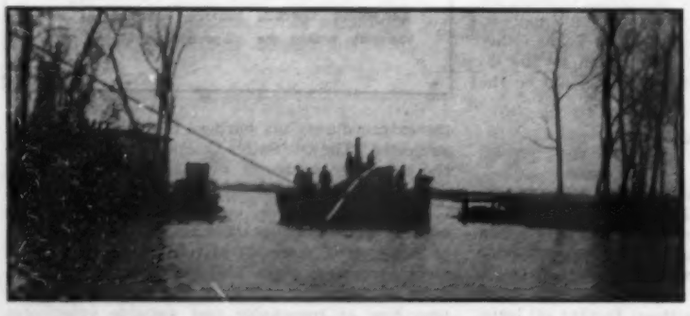
Louisiana's Oil Production Is Going High, Says Dr. Shaw

NEW ORLEANS, La., Dec. 30.—Louisiana is becoming one of the major oil producing states, Dr. J. A. Shaw, director of the Louisiana conservation department's mineral division, said here.

Doctor Shaw said he expected Louisiana to produce several million more barrels of oil during 1936 and estimated the average daily production during 1935 in Louisiana at 140,000 bbls.

"A number of new fields will be developed," Doctor Shaw asserted. "I have no doubt of this. Thousands of acres, principally in south Louisiana, are under lease by oil companies and by individual parties. Some of the oil companies are presently drilling 'wildcats' that have indications of becoming good producers.

"I can say without hesitation that Louisiana's oil and gas industry has a very rosy picture for 1936," he said.



Making up pipe on barge for river crossing

Lowering pipe into water at river crossing

Natural Gas News

Gas Revenue Increase in 1935; Natural Gas Gain Greatest

The gas industry in the United States in 1935 continued the improvement which began during the preceding year, according to Alexander Forward, managing director of the American Gas Association.

Manufactured and natural gas companies, supplying towns and cities with a population of 80,000,000, served a total of 16,002,000 customers, representing the largest number of consumers ever connected to the mains of the industry. Of these, 9,973,000 were served by the manufactured gas industry and the remaining 6,029,000 were served by the natural gas industry.

Revenues of the entire industry, both manufactured and natural, aggregated $726,306,000, a gain of 3.4 per cent over the preceding year of 1934. The natural gas companies grossed $353,335,000, a gain of 7.8 per cent for the year, while revenues of the manufactured gas companies were $372,971,000, as compared with $374,845,000 in 1934, a decline of one-half of 1 per cent.

Sales of manufactured gas for domestic uses, other than house heating such as cooking, refrigeration, water heating amounted to 225,884,000 cubic feet, a decline of 3 per cent for the year. House heating sales, however, registered a gain of 29 per cent. On the other hand, the sales of natural gas for domestic uses registered a pronounced up-turn rising from 284,482,000,000 cubic feet in 1934 to 302,120,000,000 cubic feet in 1935, a gain of 6.2 per cent.

Sales of both manufactured and natural gas for industrial and commercial purposes in 1935 averaged about 10 per cent above the previous year.

Sales of gas ranges in 1935 continued at a pronounced upward trend. Approximately 1,100,000 gas ranges were sold during the year, representing a gain of about 250,000 or nearly 30 per cent over 1934. It is interesting to note that nearly 75 per cent of these sales constitute relatively high priced ranges incorporating modern automatic features, such as oven heat control.

PRELIMINARY ESTIMATES ON THE GAS INDUSTRY FOR 1935

	1935	1934	% change
Manufactured and Natural Gas			
Gas customers	16,002,000	15,722,000	+1.8
Gas sales (m.c.f.) ..	1,406,782,000	1,307,723,000	+7.6
Rev. from gas sales.	$726,306,000	$702,614,000	+3.4
Manufactured Gas			
Gas customers	9,973,000	9,874,000	+1.0
Gas sales (m.c.f.) ..	357,182,000	347,453,000	+2.8
Rev. from gas sales.	$372,971,000	$374,845,000	—0.5
Natural Gas			
Gas customers	6,029,000	5,848,000	+3.1
Gas sales (m.c.f.) ..	1,049,600,000	960,270,000	+9.3
Rev. from gas sales.	$353,335,000	$327,769,000	+7.8

Cities Service Gas Answer Is Before U. S. Supreme Court

WASHINGTON, D. C., Dec. 30.—Contending no federal question was involved, Cities Service Gas Co. has asked the Supreme Court to deny the Missouri Public Service Commission's plea for authority to regulate rates on natural gas brought into Missouri from Texas, Kansas and Oklahoma by the pipe line company.

The Missouri Supreme Court had ruled, the gas company asserted, subsidiary Cities Service corporations in Kansas City and other Missouri cities were "distributing agencies, not agents" of the pipe line company and state regulation was limited to subsidiaries. The pipe line company contended delivery of gas to 12 industries along its line outside city boundaries was "interstate commerce" and not under control of the state commission.

The pipe line company said the Missouri court had ruled the industrial contracts were made before the gas enters the state, and there "was no storing of the gas, no comingling of the gas with other properties in the state," and so the transactions were "not intrastate but interstate." The company contended the state commission had not "even exhausted its remedy in the state supreme court" by failure to ask a rehearing of the adverse decision. It added it was "inappropriate" to now ask the highest federal court to have the state ruling "reviewed and overthrown."

Answering the commission's claim that the company operated through subsidiaries to "avoid state regulation" the petition asserted "ownership of controlling stock in a subsidiary corporation does not constitute . . . entry into the business in which the subsidiary is engaged."

Michigan Field Extended

MUSKEGON, Mich., Dec. 30.—Refiners Petroleum Corp. No. 1 Susannah Statsick, C NW SW section 27-13n-7w, Millbrook Township, was brought in today with an open flow capacity of about 12,000,000 feet from the Michigan Stray sands extending the Millbrook-Hinton-Belvidere Townships gas field, largest in Michigan, about 1½ miles and adding about 1,100 acres to the field which already has an open flow capacity of about 400,000,000 feet daily. Consumers Power Co. has started laying a 10-inch line to Lansing from this field with three Grand Rapids companies seeking permission to lay a similar line to Grand Rapids, each at a cost between $400,000 and $500,000.

Gas Hearing on January 28 for Elimination of Waste

LOS ANGELES, Calif., Dec. 30.—The agreement reached by operators in the Mountain View field with respect to future production of natural gas will go a long way toward the determination of future action of the State Department of Natural Resources in its attempt to eliminate or at least minimize the waste of gas in California oil fields. As a result of the agreement state officials consented to the postponement of action until January 28 on the stipulation that Deputy Supervisor E. H. Musser of the State Division of Oil and Gas would be placed in charge of gas allocations as chairman of two field groups.

In addition to limiting field production to a maximum of 53,000,000 feet per day and that the output will not exceed 10 per cent of the wells' capacity, operators also stipulated that no well in the Mountain View field will be permitted to produce in excess of 1,500,000 feet per day. The state's action in agreeing to the postponement of the suit until January 28 also reflects the opinion that favorable action will be undertaken in the near future on a proposal to lay a 4-mile natural gas line from the central part of the Mountain View field to the Edison field for use in drilling operations and the repressuring of partially depleted zones in the latter field through the use of any surplus of gas which might be moved over to the Edison district.

Crude Stocks

WASHINGTON, D. C., Dec. 30.—The Bureau of Mines reports stocks of domestic and foreign crude at the close of the weeks ended December 14 and 21 totaled 298,311,000 and 298,598,000 bbls., respectively. Compared with December 7, the December 14 total represented a decrease of 821,000 bbls., and the December 21 total an increase of 287,000. Crude oil imports increased the daily averages, being 143,000 bbls. for the week ended December 14 and 111,000 bbls. for the week ended December 21.

Crude oil runs to stills for the two weeks were about 2,780,000 bbls., close to a record for this season of the year. Gasoline stocks increased about 2,500,000 bbls. during the two weeks.

STOCKS OF CRUDE PETROLEUM DECEMBER 14 AND 21, 1935

(In thousands of barrels)

Grade of crude oil	Dec. 14	Dec. 21
Pennsylvania	4,507	4,440
Other Appalachian	837	808
Lima-N.E. Ind., Michigan	1,117	1,147
Illinois, S.W. Ind.	11,097	11,067
N. Louisiana-Arkansas	9,991	9,705
W. Tex.-S.E. New Mex.	29,015	29,164
East Texas	20,256	20,101
Other Mid-Continent	132,723	132,809
Gulf Coast	24,018	25,289
Rocky Mountain	26,574	26,682
California	33,636	33,869

Ponca City Rates

The Oklahoma Corporation Commission has denied the application of Ponca City for a decrease in gas rates charged by the Ponca City Gas Distributing Co. The order reserved the right to reopen the case.

Pointing out there was a conflict in testimony of various witnesses the commission said that after a full hearing "we find ourselves to be in great doubt as to the right to reduce the rate charged for gas at Ponca City without jeopardizing the effectiveness of such an order on the grounds of the same being unfair and confiscatory."

Michigan Independent Refiner May Face Crude Shortage

MUSKEGON, Mich., Dec. 30.—With crude production holding at about 46,000 bbls. daily in 12 Michigan fields, and the near completion of the new 140-mile, 25,000-bbl. pipe line from the Crystal field to Toledo, a dozen or more independent refineries in Michigan are facing possibility of an early crude shortage. With the exception of several of the larger independents, including Roosevelt refinery, of Mount Pleasant, Old Dutch and Naph-Sol Refining companies, of Muskegon, Midwest Refinery, of Alma, and McClanahan Refineries, of St. Louis, which have their own crude supply, the independents largely are dependent upon surplus production of some of the larger crude buyers.

When the new Toledo line is completed, Simrall Pipe Line Co., second largest purchaser of Michigan crude, will have a new outlet for its surplus to plants in the Toledo district, for Simrall owns half of the new pipe line with Standard Oil Co. of Ohio holding the other 50 per cent.

Pure Transportation Co., largest crude buyer in Michigan, recently notified several independent plants they will no longer be able to purchase Pure's surplus because of newly developing markets elsewhere. As a result there will probably be a number of idle refineries in Michigan during the next six months. The rising price structure also reflects the shortage of crude, a situation soon to be accentuated by the completion of three more refineries with a total daily capacity of 6,000 bbls. It is estimated Michigan will have a market for about 80,000 bbls. of crude daily with only 45,000 bbls. available.

Despite this critical crude supply situation, Michigan continues to be an outstanding state in refinery building. McClanahan Refineries, Inc. has signed a license contract with Universal Oil Products Co. and has started construction of a Dubbs cracking unit with a charging capacity of 1,250 bbls. daily, or about the same as the $225,000 unit installed during the past year by the Naph-Sol Refining Co., of Muskegon. Old Dutch Refining Co. also has announced plans for installing a cracking unit and enlarging its crude capacity from 3,000 to about 4,000 bbls. a day. The company recently made a deal for removing a 3-inch line from the Mount Pleasant area to the Crystal field where Old Dutch has contracted for additional crude. The line will transport crude from Crystal wells to the Grand Trunk railway at Butternut, between Vickeryville and Carson City. Formerly owned by Wellman Oil Co., of Grand Rapids, it is now controlled by backers of State Refining Co., a new Grand Rapids concern planning to erect a plant in Grand Rapids to use the rest of the line's 3,000-bbl. capacity.

Philadelphia A.S.T.M. Meeting to Discuss Industrial Fuels

Under the joint sponsorship of the A.S.T.M., Philadelphia District Committee and the Philadelphia Engineers' Club, a symposium on industrial fuels is to be held in two sessions on the afternoon and evening of Tuesday, January 21, 1936, at the Engineers' Club in Philadelphia. A joint committee of the two organizations has been developing the program for several weeks and an interesting symposium is in prospect. The program is as follows:

Liquefied Gases—W. H. Bateman, Solgas, Inc.

Manufactured Gas—W. H. Fulwieler, United Gas Improvements Co.

Coal and Coke—A. C. Fieldner and W. A. Selvig, U. S. Bureau of Mines.

Fuel Oil—H. V. Hume, Atlantic Refining Co.

Each paper has been prepared on the basis that they will have considerable comparative value and is treated from the following viewpoints: historical background, magnitude of the industry, future availability of raw materials, possibility of new processes, the tests which are applied to the materials, the significance of these tests, the utilization of the materials, the general aspects of the product and utilization.

Since this subject of industrial fuels is one of major industrial importance and with outstanding authorities in the various fields participating in the symposium, an interesting meeting is in prospect.

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DAVID B. CRAWFORD

At a directors' meeting held December 21, the board of the Parkersburg Rig & Reel Co. elected David B. Crawford as president to fill the office vacated by the death of H. J. Lockhart which occurred on October 20, 1935.

Mr. Crawford has been associated with his brother, John M. Crawford, in the conduct of the affairs of the company since 1899, was elected secretary and treasurer in 1913, which office he has retained, successively, until his present promotion.

"Dave" Crawford is a well-known figure throughout the oil industry and his many friends will be pleased to learn of his new position. His entry into the oil well supply business was at Bradford, Pa., in 1890 when he was employed by Bovaird & Seyfang. He left the company to associate himself with the Parkersburg Rig & Reel Co.

Other officers of the corporation are John M. Crawford, chairman; Casper A. Ruf, vice president and treasurer, and B. M. Farson, secretary.

Edward G. Seubert (right), president of Standard Oil Co. (Indiana), himself a veteran of service since 1891, congratulates Edgar Bogardus, retiring expert sales prognosticator, on completion of 45 years' service as he graduates to "vacation" of retirement on annuity.

Oklahoma and Kansas Wells of Immense Potential Output

Gusher production on a half-mile front at the extreme north end of the Oklahoma City field, near the governor's mansion, was proved when two important tests were given large potential ratings.

British American Oil Producing Co. No. 1 Piersol, SE SE SE section 22-12-3w, about two blocks northeast of the governor's mansion, opened the second time for a test, established a 24-hour potential of 27,568 bbls. of oil; gas, 34,000,000 feet a day, estimated. In the six-hour test it produced 6,519.32 bbls. of oil, flowing 4,594.80 bbls. of oil in the last four hours. Total depth is 6,362 feet; Wilcox sand topped at 6,342 feet. On a previous five-hour test Sunday the well flowed 5,009.56 bbls.

British American Oil Producing Co. No. 1 Mary Green, SW SW SW section 23-12-3w, flowed 1,890 bbls. of oil in 6 hours and 35 minutes, with 3-inch drill pipe in the hole. Gas gauged 8,000,000 feet. This Wilcox sand discovery well in the area was bottomed at 6,354 feet.

Fairfax Oil Co. No. 1 Bracht, NW SW SE SW section 23-12-3w, on extreme east side of the Capitol area, established a potential production of 4,332.18 bbls. of oil. It flowed 1,107.74 bbls. of oil in six hours on gas lift. Wilcox sand was topped at 6,343 feet; total depth, 6,514 feet.

Fairfax Oil Co. No. 2 Bracht, north of No. 1 Bracht and on Block 12, Fairfax Addition, established a potential production of 7,179.72 bbls. of oil daily. Total depth is 6,500 feet, in Simpson sand, topped at 6,383 feet.

Magnolia Petroleum Co. completed the largest producer yet completed in the West Chandler field of Lincoln County. Its No. 1 Epps, SE SE SE section 32-15-3, had Wilcox sand at 5,073-88 feet and flowed 1,367 bbls. of oil in 24 hours, about twice the production of any other well in the pool. It is a north offset to a 600-bbl. producer, and extends production one location north.

Barnsdall Oil Co. and Larlo Oil & Gas Co. No. 12-A Wenrich, SW NE NW section 28-32-2w, had the rich Dolomite pay in the Oxford field, Sumner County, Kansas, at 2,836-81 feet, and flowed 19,068 bbls. of oil in 24 hours, after treating with 2,000 gallons and then 8,000 gallons of acid. Before treating, it flowed as high as 60 bbls. an hour, natural.

Liberty Posts New Prices

Liberty Pipe Line posted a price of $1.25 for East Texas and Bee County crude in Texas, effective January 1. Heavy crudes it purchases in Southwest Texas are posted at 90 cents per barrel. It is a 25-cent increase on light oil and a 10-cent increase on heavy oil.

Leasing in Southern Michigan

TOLEDO, Ohio, Dec. 30.—In Monroe County, Michigan, 220 oil and gas leases have been taken on farms in Dundee, Summerfield, Whiteford and Bedford Townships by C. P. Curtis of Adrian, Mich. The leases cover 12,000 acres and run for 10 years.

OBITUARY

JOSEPH SNIVELY REID, president and treasurer of Clark Brothers Co., passed away at his country home, 29 Schuyler Street, Belmont, N. Y., Friday afternoon, December 20. He had been in failing health for the past year.

Mr. Reid was born at Greencastle, Pa., December 5, 1868, and in 1892 went to Belmont where he began his career with Clark Brothers Co. Manifesting engineering ability, Mr. Reid rapidly advanced until he became president-treasurer of the company in 1923.

Mr. Reid devoted much time to astronomy and in his home at Belmont is one of the largest and best equipped amateur observatories in New York state. When an opportunity afforded itself, Mr. Reid took courses at Columbia University and he was known as an authority on various mechanical devices.

T. K. SMITH, 58, a pioneer manufacturer of natural gasoline and inventor of equipment widely used in the oil industry, died Tuesday afternoon at his residence in Tulsa. He had been in ill health for some time, but had been confined to his bed for only three weeks.

T. K. SMITH

Mr. Smith was born in Cleveland, Ohio, September 23, 1877. When a young man he moved to Sistersville, W. Va., where he first became interested in the oil business and in the manufacture of gasoline from natural gas. He came to Tulsa in 1912 when he and his father-in-law, the late Thomas Chestnut, and his brother-in-law, Charles P. Quinlan, formed the well-known company of Chestnut & Smith, their first venture in the manufacture of natural gasoline being in the Glenn Pool field. A sale of Texas properties was made to the Lone Star Gasoline Co. in 1931. The Glenn Pool plant is still being operated by the Pioneer Corp., of which Mr. Smith was president. Mr. Smith was also president of the Orbit Oil Corp. He invented the Smith oil and gas separator, widely used in the oil industry.

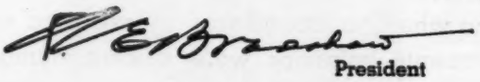
IS BUSINESS BETTER?

TO that question I answer—"YES, BUSINESS IS BETTER!" Actual evidences of economic improvements have passed through the channels of our bank, which show that crops are better; oil companies earnings have increased considerably; retail trade has improved; building construction has gone forward rapidly; manufacturing has had a material gain; and freight loadings show a substantial increase.

This advance in business at the close of the year shows more than the usual seasonal proportions. The improvement is not spectacular, but it is substantial and the optimism that follows this upturn seems to be one of growing confidence.

The welfare of a bank is a direct reflection of the welfare of the community it serves. Banking conditions do not regulate economic conditions and produce prosperity or depression at will. Banks are only the channels through which commerce passes and the strong commercial activity that has passed through this bank is substantial evidence of better times.

The National Bank of Tulsa, too, closes its books on a very satisfactory 1935 and opens the 1936 ledger with legitimate confidence that the improvements already registered will continue with steady momentum.



President

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Effect of Past Errors

With conditions in the producing and refining branches of the oil industry in better shape than for years, troubles in the marketing division persist.

The painful truth about this situation is that the industry itself is suffering now for errors.

In the days of overproduction when gallonage was the only goal of sales departments, missteps were taken that it is now found difficult to retrace.

The temptation to increase gallonage by underbidding, by giving a concession here or there, granting a favor to this one or that, and generally undermining the market, was not resisted as it should have been. The ready excuse that everybody was doing it may have stifled better judgment but in the end all fell together into the same pit.

Undesirable practices grew into abuses that clung and clustered like barnacles on the hull of a ship, impeding the progress of the industry. They will have to be scraped off before we can go full speed ahead.

Some of these abuses developed into little short of rackets that attracted elements the business would have been better without. Tax evasion was only one form of this development.

The first departures from ethical practices and sound business principles undertaken in the effort to deprive some competitor of his gallonage, have now returned to plague the marketing branch. Concessions and favors granted during a period of temporary overproduction have assumed the status of permanency based on established precedent.

Those who have had these concessions expect them to be continued regardless of the altered conditions in the industry as a whole. The industry cannot afford to continue them. It must put its house in order.

The question of margins must be reconsidered in the light of present circumstances. There must be a cleaning out and tightening up of the market structure before persisting abuses and practices can be eradicated. It may mean the weeding out of the unfit but no business can progress throttled to its least efficient.

The elimination of marketing abuses and the correction of undesirable practices is being studied in the industry from every angle. The open letter from a group of refiners is an example of this phase.

What of 1936?

The views of representative oil men and of the governors of three important oil producing states, (two of them oil men), published in this issue of The Oil and Gas Journal, coincide in the belief that the oil industry is going to have an even better year this year.

A notable characteristic of the opinions is their general conservatism, to be on the safe side rather than to risk overoptimism, which makes the common agreement the more valuable.

A further increase in consumption is universally expected even though the weather should revise recent estimates of the gain in January over a year ago, a possibility that refiners who are now accumulating gasoline a little too rapidly would do well to consider.

Unsettled retail conditions in some areas, despite steadiness of the crude and tank car markets, indicate the necessity for prudence in production of motor fuel and avoiding any risk of entering the main consuming season with an oversupply.

Indications of improvement in the California situation and reported offering of premiums for East Texas crude on the Gulf Coast add to general cheerfulness.

This time the oil man, always optimistic, can stick close to facts and look forward to a really happy and prosperous New Year.

Oil News from Foreign Lands

VENEZUELA

The El Lirial test of the Standard of Venezuela owned by Creole is reported drilling around 3,500 feet. This test is on the concession owned by the Pantepec companies and considerable interest is being displayed in the progress of the wildcat test, the first to be drilled on its acreage. Eleven-inch casing was set at 3,250 feet. The equipment installed is designed to drill to a depth of 10,000 feet if considered advisable. It is understood that the expected producing depth is between 6,000 and 7,000 feet.

Materials are being transported to the site of the second test on the Pantepec acreage which is about 50 miles south and little east of the El Lirial test. This test will start drilling after the first of the year. A tentative location for third test is on the El Roble concession which is 75 miles directly west of the El Lirial concession.

CRUDE OIL PRODUCTION IN VENEZUELA IN NOVEMBER BY FIELDS AND COMPANIES

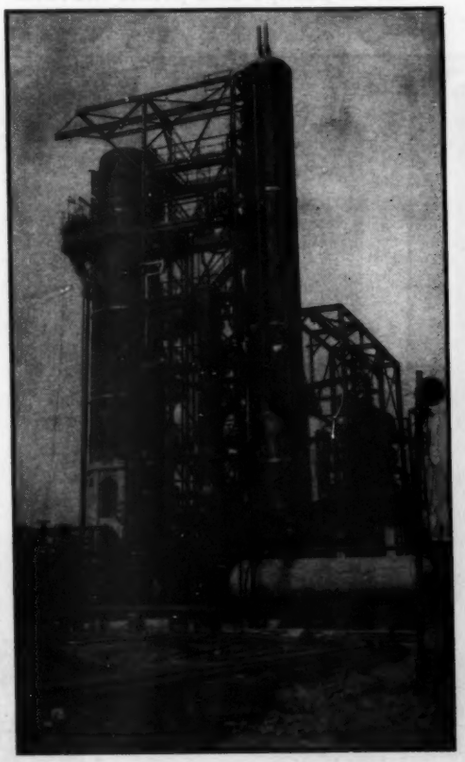
By fields—	1935	1934
Lagunillas	7,085,571	6,590,347
La Rosa-Ambrosia	1,695,472	1,721,242
Quiriquire	1,642,225	1,220,630
Mene Grande	1,285,810	1,281,420
Tarra	379,920	398,890
Cumarebo	171,698	295,109
Concepcion	107,040	132,090
El Mene	64,500	76,500
La Paz	12,750	17,790
Total	12,444,986	11,734,018
By companies—		
Lago Petroleum Corp	3,928,588	4,054,889
Venezuelan Oil Concessions	3,090,390	3,013,230
Creole Petroleum Corp.	2,295,778	1,748,089
Venezuelan Gulf Oil Co.	1,400,000	1,161,000
Caribbean Petroleum Co.	1,285,810	1,281,420
British Controlled Oilfields, Ltd.	64,500	76,500
Total	12,444,986	11,734,018
Daily averages—	1935	1934
November	414,832	391,133
October	426,020	394,850
September	422,114	402,543
August	414,700	394,620
July	415,582	386,342
June	424,411	373,435
May	401,743	372,333
April	382,378	367,333
March	371,900	351,630
February	390,020	348,900
January	405,156	350,270
First six months	397,055	360,780

AUSTRALIA

A report has been submitted to the Australian commonwealth government by its fuel adviser, J. L. Rogers, dealing with the suggestion that surplus cereals should be converted into alcohol for admixture with petrol as a motor fuel. It is stated that Mr. Rogers is not impressed with the possibilities of establishing such an industry in Australia. It would need legislation making the use of such mixtures compulsory, possibly the purchase of alcohol to the extent of 10 per cent of petrol imports. Such a step would create a market for 23,000,000 gallons of alcohol and 10,000,000 bushels of wheat annually. But as there would be made as a by-product cattle fodder equivalent to 3,000,000 bushels of wheat, Mr. Rogers points out that the wheat market would be relieved of only 7,000,000 bushels per annum. His most important objection, however, concerns the question of cost. The value of power alcohol as a constituent of petrol for sale in bulk to existing marketing organizations is estimated at 1s. 2d. per gallon. Thus, with wheat at about 3s. per bushel, to support the proposed new industry would cost the government something of the order of £1,000,000 sterling a year, rising to £1,500,000 with 4s. 6d. a bushel wheat while at these values for wheat the cost per gallon works out at 1s. 5d. and 1s. 10d. respectively.

MANCHUKUO

Anthony Eden, the British minister for League of Nations Affairs, was asked in the house of commons what was the position in regard to the protest by the British government to Japan on the oil monopoly in Manchukuo; and whether there was to be any compensation for British interests which had suffered. Mr. Eden stated that no reply had been received from the Japanese government to the last communication which was made to them on this subject. The question of compensation was under discussion between the British interests concerned and the Manchurian authorities, but he understood that nothing concrete had as yet emerged from these discussions. In reply to a further question, Mr. Eden added that the British government's communications reserved its position to the fullest degree, and the fact that no reply had been received did not, in the government's view, prejudice the position.



New two-stage crude distillation unit at the Campana, Argentina refinery of Compania Nacional de Petroleos. This unit, which has a capacity of 6,500 bbls. daily, was built and placed on stream in six months. It was built by the Lummus Company

MEXICO

The following values and production taxes apply in Mexico for December: (calculated in silver at exchange of $3.60)

Values—Fuel oil, 22.64 silver pesos per cubic meter=$1 per barrel; gasoline, 82.74 silver pesos per cubic meter=.0870 cent per gallon; kerosene, 48.31 silver pesos per cubic meter=.0508 cent per gallon.

Production Taxes

Crude (specific gravity 0.93=Be. 20.38), tax per cubic meter, 2.454 pesos; tax in United States currency, .10837 cent per barrel; crude (specific gravity=Be. 1568) or heavier, tax per cubic meter, 1.472 pesos; tax in United States currency, .06501 cent per barrel; fuel oil (specific gravity 0.95=Be. 17.21), tax per cubic meter, 2.264 pesos; tax in United States currency, .09998 cent per barrel; gasoline (crude), tax per cubic meter, 3.310 pesos; tax in United States currency, .00348 cent per gallon; gasoline (refined), tax per cubic meter, 1.655 pesos; tax in United States currency, .00174 cent per gallon; kerosene (crude), tax per cubic meter, 2.899 pesos; tax in United States currency, .00305 cent per gallon; kerosene (refined), tax per cubic meter, 1.449 pesos; tax in United States currency, .00152 cent per gallon.

The production tax on fuel oil will vary approximately .00820 cent per barrel for each degree of specific gravity above (deduct) or below (add) 0.95 specific gravity.

The production tax on light crude will vary approximately .00889 cent per barrel for each degree of specific gravity above (deduct) or below (add) 0.93 specific gravity.

Export Taxes

Note—As export taxes are payable in silver at par, to make calculations in United States currency, take figures given below, multiply them by two and divided by rate of exchange at time of payment (United States currency $1 for 2 pesos):

Crude (specific gravity 0.93=Be. 20.38), .07949 cent per barrel; crude (specific gravity 0.96=Be. 16.68) or heavier, .04928 cent per barrel; fuel oil (specific gravity 0.95=Be. 17.21), .05962 cent per barrel; gasoline (crude), .00472 cent per gallon; gasoline (refined), .00189 cent per gallon; kerosene (crude), .00151 cent per gallon; kerosene (refined), .00057 cent per gallon.

URUGUAY

Shipments of equipment and materials are now being made from the United States to Uruguay where the new government sponsored refinery is under construction. The state monopoly which operates under the name of Administracion Nacional de Combustibles, Alcohol y Portland commonly known as "Ancap" contracted for the construction of the refinery several months ago and ground was broken for construction during the summer.

The refinery which will have a capacity of approximately 3,500 bbls. daily will have complete equipment for crude distillation, and cracking. The refinery is designed to provide a flexible operation as it is anticipated that the crudes, all of which will be imported, will vary in quality. The Dubbs cracking process is being installed.

GERMANY

Germany's production of crude petroleum amounted to 33,227 metric tons in October, compared with 32,091 tons in September, and the 1934 monthly average of 26,071 tons. The October daily average is thus the same as in the preceding month. The Hanigsen-Obershagen-Nienhagen district was responsible for 23,235 tons, Wietze-Steinforde 4,137 tons, Eddesse-Oelheim-Oberg 3,754 tons, and Hoheneggelsen-Molme 957 tons. The Gifhorn deposit yielded 157 tons, Fallstein (Halberstadt) 219 tons, and Heide in Holstein 457 tons. Production in Baden was 249 tons and in Thuringia 62 tons.

Scientific Heat Conservation Effects Major Economies in Steam Drilling

By M. W. PHELPS
Oil Well Supply Co.*

The same efforts to conserve heat and cheapen operating costs have come into drilling practices that have characterized the oil industry generally. An important step has been the perfection of steam equipment which makes this possible. In the accompanying article the author outlines the application of feedwater heating to field boilers, superheating the steam, insulation of field boilers and lines, and the proper choice of all oil pumps and prime movers.

Steam has been used as the source of motive power on drilling rigs since oil was first produced from drilled wells. Until recently no sincere attempts have been made to conserve heat either at the boiler plant or in connection with the prime movers using the steam. If the same had been true with stationary steam power plants we would still literally be in the dark ages as the cost of electric power would be prohibitive. There are no sound basic reasons why the major improvements looking to heat conservation in stationary steam power plants cannot be applied to the portable steam power plants used for drilling oil wells. It is true that because of limitations as to simplicity, portability, and the type of work to be done, the drilling rig power plant cannot include all of the refinements of the high efficiency stationary plant but the basic principles can be applied without sacrificing simplicity, portability, etc. The following are the major points at each of which there is an opportunity for appreciable heat conservation on the drilling rig of today:

1. Feedwater heating.
2. Boiler efficiency.
3. Superheating.
4. Slush pump prime mover.
5. Rotary prime mover.
6. Boiler and steam line insulation.

Feedwater Heating

The practice of heating the feedwater in the drilling rig boiler plant has been followed more or less indifferently for the past several years. The equipment used usually consists basically of a coil of pipe in the discharge line from the feed pump, this coil being placed inside a large pipe or shell to which exhaust steam from the pumps and engines is admitted for heating the water by conduction. This is known as the closed type of heater. If sufficient surface for heat transfer is provided to heat 20,000 pounds of steam per hour or more to 200° F., the closed heater becomes very large and cumbersome. Actual temperature readings taken in the field indicate that the heaters of this type generally in use not only are not large enough when originally made but also that their efficiency is rapidly reduced by scale and other insulating coatings which form both on the inside and the outside of the coil. It is very unusual to find feedwater temperatures above 120° F., in heaters of this type.

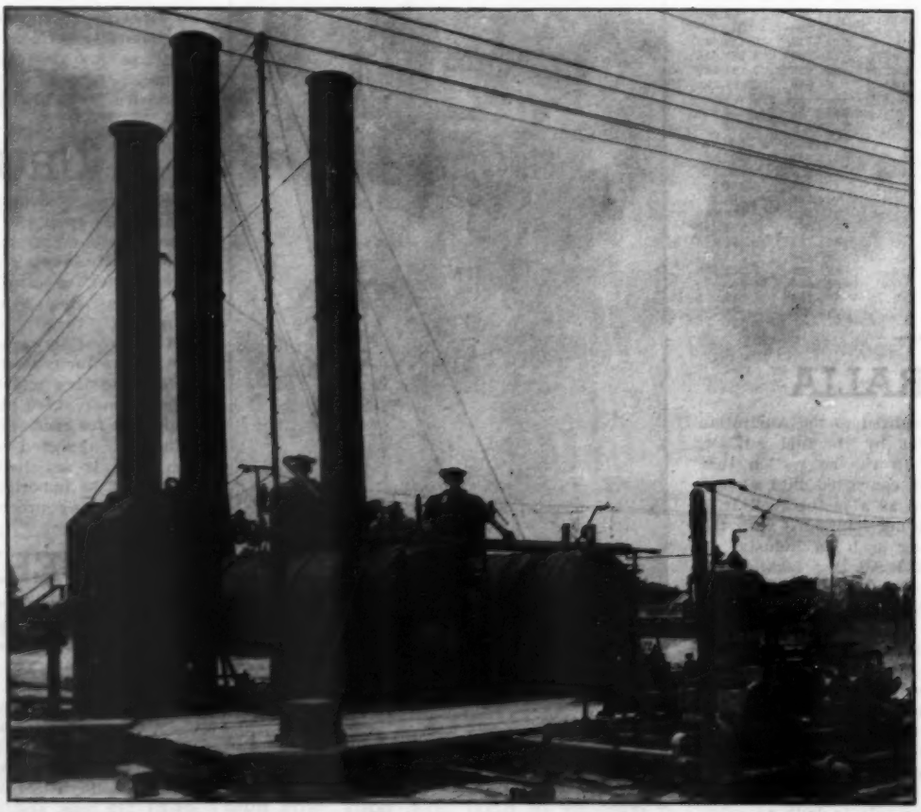
One manufacturer has placed on the market a combined feed pump and heater unit which utilizes the same principle as the jet condenser for heating the feedwater. This is known as the open type heater and in it the cold feedwater as it is sprayed through a spring loaded valve comes into direct mixing contact with exhaust steam at a pressure of approximately 10 pounds per square inch gauge. This heats the feedwater to a temperature of approximately 210° F., which is within 15° F., to 25° F., of the temperature of the exhaust steam in the heater chamber. The heater is of sufficient capacity to produce the above results in a boiler plant developing 800 boiler horsepower. Feedwater heated to 210° F. requires 13 per cent less heat to convert it into steam at 250 pounds per square inch gauge than does 55° F. feedwater. This is a very worth while conservation of heat since it costs nothing to utilize the exhaust steam which would ordinarily be blown to the air and wasted.

Feedwater Heater

There are other advantages resulting from the use of the open type feedwater heater which are not related directly to heat conservation but which result in pronounced operating economies. In this type approximately 15 per cent of the total steam generated is condensed in the heater and returned to the boiler as distilled water, thus reducing the raw water used by that amount. The result is cleaner boilers.

The elements of temporary hardness in most feedwater are precipitated at about 200° F., and with the open type heater a portion of these precipitates forms scale in the heater chamber and the remainder passes into the boilers as a sludge which does not scale the tubes but settles into the water legs from which it is blown out. Scale in the heater chamber of the open type heater does not reduce the heater efficiency until it has built up sufficiently to interfere with the operation of the float mechanism, whereas in the closed heater a relatively thin scaling of the coil is very detrimental. The cleaning of the open type heater is very simple and easy to perform as the heating chamber can readily be removed from the feed pump and cleaned through large openings provided for that purpose. Scale deposited in the heater chamber is eliminated from the boilers. This results in cleaner boilers.

Water heated to approximately 200° F. liberates any free oxygen which may be present. This oxygen is vented



Modern boiler assembly for deep drilling including an externally fired superheater, condensing-preheating boiler feed pump and piston valve standby pump

*Presented before Houston district meeting of the A.P.I.

Independently driven oil bath rotary table unit. Power is transmitted directly from the steam engine to the 27-inch table. By means of a cross connection and chain drive power can be supplied to the drawworks in an emergency

from the heater chamber through an opening provided for that purpose. Free oxygen in water fed to boilers causes pitting and the open type heater eliminates this condition and makes for longer boiler life.

Boiler Efficiency

The subject of boiler efficiency cannot be given fullest attention in the type of boilers used on a drilling rig because portability, simplicity, ease of installation, type of setting and weight are of paramount importance in a boiler plant which must be moved from one location to another frequently. These considerations have made the use of the locomotive fire tube type of boiler universal for oil field work. Boiler capacities from an evaporation standpoint are limited to 125 horsepower A.S.M.E. rating maximum and in recent years working pressures have been increased to a maximum of 350 pounds per square inch so as to increase the output of the prime movers on the rig.

Most oil field boilers are constructed with 3-inch flues but one manufacturer has standardized on 2¼-inch flues in all boilers built for 250 pounds per square inch working pressure and above. Some years ago the U. S. Bureau of Standards made rather exhaustive tests on fire tube boilers and the results indicated an improved efficiency with small flues. The demands on a locomotive boiler from a load standpoint, as well as the question of bad water, are very similar to those on a drilling rig. A locomotive boiler must develop the greatest possible steam output with the least possible weight and fuel consumption. The use of small flues has been the only basic attempt made in oil country boiler design to improve efficiency except, of course, the increase in the size of the firebox which has more to do with increased steaming capacity than efficiency.

For the past four or five years superheating equipment has been available to drilling operators in two forms. The first is of the built-in type in which special superheating tubes are built into the boiler, replacing some of the regular evaporating tubes and the second is of the separately fired type and consisting of an entirely separate unit which is placed in series in the main steam line leading from the boilers to the rig.

The specific volume (cubic feet per pound) of dry saturated steam at 250 pounds per square inch gauge is 1.745 cubic feet per pound. The specific volume of steam at 250 pounds per square inch gauge superheated to 100° F. is 2.046 cubic feet per pound. There is, therefore, an increase in volume due to 100° F., superheat of 17.5 per cent.

Superheating Economical

The total heat content of saturated steam at 250 pounds per square inch gauge is 1,201.1 B.t.u. The total heat content of this same steam superheated 100° F. is 1,264 B.t.u. or an increase of 5.3 per cent. Thus, (for any given amount of water evaporated) by increasing fuel consumption 5.3 per cent, we add 17.5 per cent to the volume of the steam when superheated it 100° F. Stating the matter conversely, the evaporation required of the boilers for a given volume output becomes 85 per cent of that required for saturated steam and the fuel burned under the boilers becomes 85 per cent of that required for saturated steam. The fuel used in the superheater must be taken into consideration and this results in a net fuel saving of approximately 10 per cent.

Superheating Increases Efficiency

The use of superheated steam results in other notable operating improvements on a drilling rig. With saturated steam a very noticeable amount of condensation occurs in the long steam line running from the boiler plant to the rig. This condensation is entirely eliminated under ordinary conditions when superheat of 100° F. is used. The machinery operates more efficiently, lubricates more effectively and responds to heavy demands more promptly when supplied with dry or slightly superheated steam. This was proven in a test made four years ago by Hu M. Harris and J. E. Eckel of the Humble Oil & Refining Co. as covered by a paper presented before the Division of Production, A.P.I. meeting at Dallas, June, 1931.

In the built-in type of superheater, it is impossible to control the amount of superheat obtained and the net volume of steam produced by a boiler with superheater built in is approximately the same as the volume of saturated steam produced by a boiler having the same diameter of barrel and length of tubes. With the separately fired superheater now offered by one manufacturer which has a rated capacity of 15,000 pounds of steam per hour at 100° F. superheat, it is possible to automatically maintain a constant steam temperature regardless of the quantity of steam required up to the rated capacity of the superheater plus a reasonable overload. The main steam piping is usually arranged for bypassing the separately

Vertical twin-cylinder steam engine with variable cutoff driving a pump

fired superheater so that it can be cut out of service if desired. This is not possible with the built-in type.

Slush Pump Prime Mover

The direct acting duplex steam end usually used for driving the fluid end of the slush pump is unavoidably most uneconomical in the use of steam. This is true because with the direct acting pump valve gear no provision can be made for cutting off the admission of steam prior to the end of the stroke since no flywheel effect is available. This eliminates all possibility of using any of the expansive force of the steam and the steam used by the steam end is measured entirely by the volumetric displacement of the steam pistons. The resulting steam consumption of the direct acting duplex pump is, therefore, approximately 60 pounds per hydraulic horsepower per hour.

In order to effect heat conservation at this point two types of slush pump prime movers have been used. The multistage, high-speed steam turbine driving through reduction gears has been used with satisfaction from a steam economy standpoint but the characteristics of this type of prime mover are not entirely favorable since constant torque is not available at all speeds and since the low speed or stalled torque is not sufficiently high. Any slush pump and its prime mover must be capable of developing the highest possible mud pressure when stalled if it is to be most successful from a field operating standpoint. The steam engine as a prime mover meets all the torque requirements of a slush pump drive and if of the correct size for the work will have equally as favorable a steam consumption as the multistage noncondensing turbine. The steam engine can be either of the single cylinder or twin cylinder type and either direct coupled to the pinion shaft of a power slush pump or drive it by V-belt drive.

If the load required of the particular size of steam engine chosen is such that the engine will carry the load at 30 per cent cutoff the steam consumption will be approximately 30 pounds per hydraulic horsepower per hour as compared with a steam rate 60 pounds on a direct acting pump. This is decidedly in the direction of heat conservation. If the load on the engine is such that a cutoff greater than 30 per cent is required the steam consumption may reach a maximum of 40 pounds per hydraulic horsepower per hour and even this figure represents a 33⅓ per cent reduction in the steam consumption of the slush pump. According to the A.S.M.E. test of a rotary rig made in Oklahoma City by Prof. William H. Carson of the University of Oklahoma the steam used by the direct acting slush pump is about 70 per cent of the total steam generated. It, therefore, will be seen that a steam engine driven power slush pump will conserve between 25 and 35 per cent of the total steam used over that required by a rig equipped with direct acting steam pumps. This is real heat conservation.

Rotary Prime Mover

Up to the present time it has been the universal practice to drive the rotary table with the hoisting engine through chain drives from engine to hoist and from hoist to rotary. The power required to drive the rotary table is relatively small compared with the capacity of the hoisting engine and the engine, therefore, is operating at a very uneconomical load factor when driving the rotary table. This is especially true if the engine is not equipped with a device for shortening the cutoff so as to realize some steam economy from the expansive force of the steam and reduce the inefficiency due to throttling. In order to provide heat conservation at this point one manufacturer has developed a separate steam engine drive for the rotary table. This engine is much smaller than the regular hoisting engine end, therefore, operates at a favorable load factor at all times and it is equipped with cutoff control. The engine is direct connected to the rotary table through a gear box of suitable ratio to provide the desired range of rotary table speeds. It is of the twin vertical, high-speed, piston valve type and is mounted on a rigid self-contained structural frame along with the rotary table so that the entire assembly is moved as a unit and kept in alignment. Since the rotary usually develops a maximum load equal to the capacity of the engine and a choice of cutoff is provided for the lighter loads, it is estimated that a saving of steam of approximately 20 per cent of that ordinarily required for driving the hoisting engine for drilling will result. A part of this saving will be due to the more efficient drive in which all chain drives are eliminated. The separate rotary drive makes possible several operating advantages in addition to the heat conservation such as elimination of chain noise and wear, easier spudding, loss strain on drill pipe, reduced wear and tear on hoisting engine and hoist, and less fatigue on the driller due to quietness of operation.

Vertical twin-cylinder steam engine with hand controlled variable steam cutoff, with chain drive to drawworks

Use of Insulation

When observing a drilling rig in operation, it becomes very apparent that an appreciable amount of heat could be conserved if the boilers and steam lines were covered with insulating material. Sectional insulation has been developed by a few manufacturers but the use of this material has become more or less general only in those fields where a boiler plant remains in one location for several months at a time. In some California fields a single boiler location is used to drill a number of wells and in these cases the plan of insulating the boilers against heat radiation is carefully carried out. When boilers and steam lines are moved frequently the problem of preserving the insulation against damage becomes acute. It is believed, however, that once the drilling operators become heat conservation minded much more boiler and steam line insulation will be used. As determined by Hu M. Harris and J. E. Eckel in their test of 1931, there is a loss by radiation, convection, etc., of 23.8 per cent where the boilers are unprotected by a house and not insulated. This figure will, of course, vary according to weather conditions but under the best conditions these losses are very appreciable. As an example, radiation losses from bare steam pipes may be expressed as 4.04 B.t.u. per square feet per degree per hour with a temperature difference of 400 degrees. A 4-inch steam line 200 feet long has 236 square feet of radiating surface. The loss based on the above would be 382,000 B.t.u. per hour and this is for quiet surrounding air. If a strong wind is blowing or if it is raining, the loss would be much greater. The total heat in 1 pound of saturated steam at 250 pounds per square inch gauge is 1,201 B.t.u. The above radiation loss is, therefore, equal to that required to evaporate 320 pounds of water per hour at 250 pounds per square inch gauge pressure. This most favorable example results in approximately 2 per cent loss of the total hourly average of water fed to the boilers as given in Professor Carson's A.S.M.E. test at Oklahoma City, referred to above. Considering weather conditions, steam lines submerged in water as is often the case and many other unfavorable circumstances, it is easy to understand a loss of 20 per cent or more due to radiation and convection from uncovered boilers and steam lines.

Summary of Results

In studying the possibilities for heat conservation on a steam drilling rig and taking advantage of the various opportunities available for reducing the fuel and water consumption we must not overlook a very important factor which has to do with the capacity of the boiler plant required. From the foregoing it is evident that sufficient heat conservation is possible to bring about the use of, roughly, 50 per cent less boiler capacity. This pronounced reduction in the number of boilers required offsets to a great extent the extra first cost of the heat conserving equipment and greatly reduces moving and rigging up costs at each location. We do not believe it is too optimistic to state that one 125-horsepower 350-pound per square inch working pressure boiler used in conjunction with the heat conserving equipment outlined above could very readily drill the average well 6,000 feet deep.

RECAPITULATION OF HEAT CONSERVATION

Item—	Fuel saving (per cent)		Water saving (per cent)
Feedwater heater	13		15
Superheater	10		15
Engine driven slush pump	30		30
Separate engine driven rotary	6	(.20x.30)	6
Boiler and steam line insulation (average)	15		15

Each of the above items will individually reflect the percentages of the total fuel and water used as compared with a rig not using them.

To reduce the heat conservation to definite fuel savings let us assume an average rig uses 100 bbls. of fuel per day and calculate cumulatively the saving to be realized by adding the various improvements to the present rigs in the order mentioned:

Item—	Fuel saved (per cent)	Fuel used (bbls./day)
Average rig (no improvements)	0	100
Feedwater heater	13	87.0
Superheater	10	78.0
Engine driven slush pump	30	55.0
Engine driven rotary — steam saved 20 per cent over regular rig—30 per cent total steam to rig used by hoisting engine .20x.30	6	51.5
Boiler and steam line insulation	20	41.0

Oil Charts and Tables

"Petroleum Charts and Tables" is the title of a publication prepared by Harold Moore of Moore & George, Ltd., 121 Queen Victoria St., E.C., London, England.

The new publication is the result of requests from the petroleum industry following the publication of the author's blending chart several years ago. By the adoption of the loose-leaf form of binding it has been possible to extend the scope of the various graphs and to include a considerable amount of additional information in the form of both graphs and tables.

A supply of blank charts has been included to enable users to prepare graphs showing the characteristics of oils which they have occasion to use frequently. In addition to the purely technical graphs dealing with the testing and blending of petroleum oils, graphs and tables have been included to facilitate calculations connected with the sale and storage of petroleum products in general. Blank and square paper has been included in the volume so that users may record for their own use information to which ready access is desirable. Included in over 20 general subjects covered in the publication are: viscosity index chart; lubricating oil blending chart; general chart for recording on one sheet viscosity, specific gravity, closed flash point, pourpoint and coke test of blends of two oils in every proportion; chart for converting pounds or shillings per ton to the equivalent pence per gallon taking into account specific gravity; table showing cwts., qrs., and lbs. expressed as decimals of a ton. The price of the book in England is 2 pounds, 2 shillings.

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Design of Casing Elevators Should Be Governed by Imposed Working Load

By ENGR. M. L. LANGLEBEN

The accompanying article discusses the design of drill pipe and casing elevators according to the theoretical stresses placed upon a cross section of the elevator body. The author sets forth certain objections to present design methods and these views are presented here as constructive but academic criticism.

The body of drill pipe and casing elevators manufactured by the majority of firms has the design illustrated in Figure 1. This design, however, does not correspond to the stresses obtained by the theoretical computation for the cross sections of the elevator body. To these stresses much better corresponds another form of the elevator body with cross sections at the lower parts of the

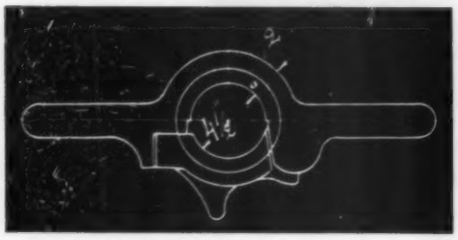


Figure 1

arc wider than at the central higher part of it, as illustrated in Figure 2.

Let us prove this statement by the following computation of the body of the 4½-inch drill pipe elevator. The sizes and form of the elevator are regular. The safe working load is 100 tons. Let us consider the elevator body as a beam supported at both ends and loaded with uniform load and two concentrated loads P_1 and P_2, corresponding to the action of the door on the elevator body. The loads P_1 and P_2 may be determined from the Fignre 3. The door is loaded with uniform load of the part of the type string weight, corresponding to the angle of contact of the tool joint with the door.

When loaded the door lug rests on the seat in the body at the left side and the door hinge rests on the lower hinge pin socket of the body at the right side. For determination of vertical loads P_1 and P_2 let us consider the door as a beam supported at both ends and loaded with uniform load. The point of application of the load P_1 will be in the center of the bearing surface, determined graphically, and the point of application of the load P_2 will be on the hinge pin axis.

Let us determine the part of the pipe string weight imposed on the door.

$$Q = T\frac{2\alpha}{360^\circ} = 100\frac{190^\circ}{360^\circ} = 39 \text{ tons}$$

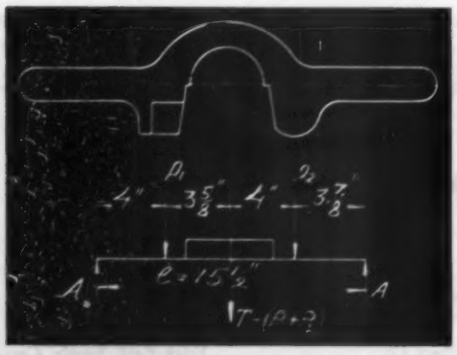


Figure 2 (upper) and Figure 2-A

in which Q denotes the part of the pipe string weight imposed on the door, T denotes the weight of the pipe string, and α denotes the angle of contact of the tool joint with the door.

Taking moments about the point B (see Figure 3) we have:

$$4Q = F.625\,P_1, \text{ whence}$$

$$P_1 = \frac{4Q}{F.625} = \frac{4\times 39}{F.625} = 20.5 \text{ tons and}$$

$$P_2 = T - P_1 = 39 - 20.5 = 18.2 \text{ tons}$$

The elevator due to its curved form is subjected to bending and twisting simultaneously.

The lever arms of the bending and twisting moments are determined by analytical and graphical methods.

The bending moment for the section "aa" is as follows:

$$M_b = A\frac{C}{2}\sin\alpha - p_1 l_1 - T\frac{(\alpha+\phi)^\circ}{360^\circ} X \sin\frac{(\alpha+\phi)^\circ}{2} \quad (1)$$

in which M_b denotes the bending moment; C denotes the distance between the points of support of the elevator, = 15.5"; A denotes the reaction in the point of support, $= \frac{100}{2} = 50$ tons; ϕ denotes the part of the angle of contact below the horizontal axis (from the drawing $\phi = 20^\circ$); T denotes the weight of the pipe string; l denotes the lever arm of the load P_1, determined from the drawing; X denotes the distance between the center of gravity of the part of the pipe, corresponding to the angle and the center of the elevator body. X is determined from the following formula:

$$X = 38.19\,F\frac{R^2 - r^3}{R^2 - r^2} \cdot \frac{\sin\left(\frac{\alpha+\phi}{2}\right)^\circ}{\left(\frac{\alpha+\phi}{2}\right)^\circ}$$

in which R denotes the outside radius of the 4½-inch drill pipe, $= \frac{4.5}{2} = 2.25$; r denotes the inside radius of the 4½-inch drill pipe, $= \frac{3.8}{2} = 1.9$, approximately.

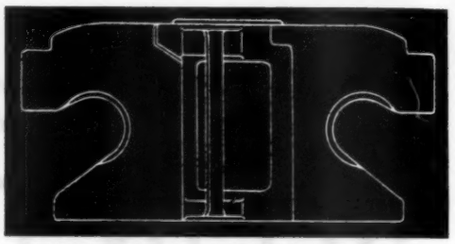


Figure 1-A

Then substituting, we have:

$$X = 38.19\,F\frac{2.25^3 - 1.9^3}{2.25^2 - 1.9^2} \cdot \frac{\sin\left(\frac{\alpha+\phi}{2}\right)^\circ}{\left(\frac{\alpha+\phi}{2}\right)^\circ} = 119\frac{\sin\left(\frac{\alpha+\phi}{2}\right)^\circ}{\left(\frac{\alpha+\phi}{2}\right)^\circ}$$

The twisting moment for the section "aa" is as follows:

$$M_t = A\left(\frac{C}{2}\cos\alpha - r\right) + P_1 r_2 + T\frac{(\alpha+\phi)^\circ}{360^\circ}\left[r_1 - X\cos\frac{(\alpha+\phi)^\circ}{2}\right] \quad (2)$$

in which M_t denotes the twisting moment; r_1 denotes the distance from the center of the elevator to the center of gravity of the cross section;

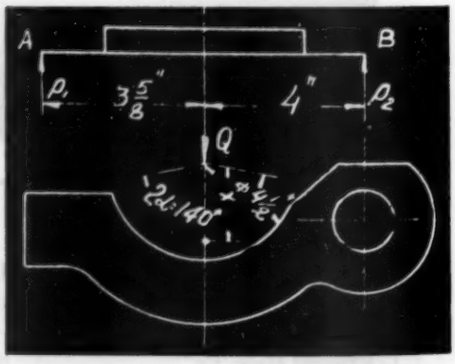


Figure 3

r_2 denotes the lever arm of the twisting moment of the load P_2, and T denotes the weight of the pipe string.

From equations (1) and (2) changing the value of the angle α we obtain the bending and twisting

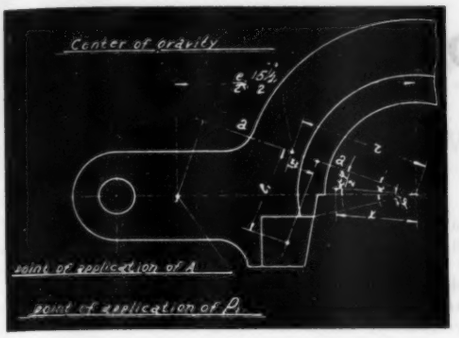


Figure 4

moments for every angle and plotting their values against the angles we obtain the curves shown in Figure 5.

Let us compute the stresses in the cross section 1, where acts the maximum bending moment, and in the cross section 2, where acts the maximum twisting moment, assuming these sections to be rectangular (see Figure 6).

Cross section 1:

$\alpha = 90°$
$M_b = 610{,}000$ lbs./in.
$M_t = 0$
$b = 2''$ (width of cross section)
$h = 10''$ (height of cross section)

The section modulus of the cross section:

$$Z = \frac{bh^2}{6} = \frac{2 \times 10^2}{6} = 33.3 \text{ cu. in.}$$

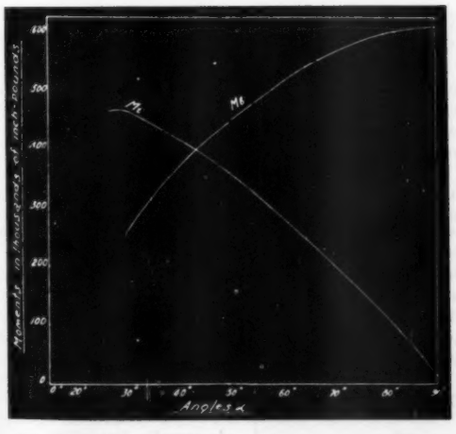


Figure 5

The unit bending stress in the cross section will be:

$$S = \frac{M_b}{Z} = \frac{610{,}000}{33.3} = 18{,}300 \text{ lbs./sq. in.}$$

Cross section 2:

$\alpha = 30°$
$M_b = 200{,}000$ lbs./in.
$M_t = 460{,}000$ lbs./in.
$b = 2''$ (width of cross section)
$h = 10''$ (height of cross section)

The maximum stress in shear for this rectangular cross section can be computed from the following formula:

$$(S_s)_{max} = \frac{M_t}{\alpha h b^2} \qquad (3)$$

(See S. Timoshenko, "Strength of Materials," New York, 1930, formula 62)

in which:

$(S_s)_{max}$ denotes maximum stress in shear and α is a coefficient, for $\frac{h}{b} = 5$, $\alpha = 0.3$ approx.

$$(S_s)_{max} = \frac{M_t}{\alpha h b^2} = \frac{460{,}000}{.3 \times 10 \times 2^2} = 38{,}300 \text{ lbs./sq.in.}$$

Thus we see that the unit stress in shear in the cross section 2 from the twisting moment only is more than twice as great as the normal unit stress in the cross section 1.

If we should take into consideration the bending stresses also, the difference would be still greater.

The above computation proves the statement that the form of the elevator body illustrated in Figure 1 does not correspond to the stresses in the cross sections and that the form of the elevator body illustrated in Figure 2 corresponds to the stresses much better.

To obtain approximately uniform strength of the arc of the elevator body the width of the cross

Figure 6

section 2 must be about 1.6 times greater than that of the cross section 1 (see formula 3).

For example, for the 4½-inch elevator the width of the cross section 2 must be $2 \times 1.6 = 3.2$ inches.

If we should assume that the load is carried by the body only, the results of this investigation would remain unchanged.

Cosden Oil to Install 7,000-Bbl. Dubbs Cracking Unit

CHICAGO, Dec. 30. — Cosden Oil Corp. has signed a license agreement with Universal Oil Products Co. and will at once remodel its present cracking unit into a 7,000-bbl. a day Dubbs cracking unit. The unit is in the Cosden refinery at Big Spring, Tex.

The license contract was signed by W. D. Richardson, temporary trustee of the Cosden corporation, and was authorized by Judge J. C. Wilson of the Federal District Court of Northern Texas, sitting in Fort Worth. The corporation is in court under section 77-B of the federal bankruptcy law.

At the same time, the court ordered the trustee to cancel a license taken by the Cosden corporation from the Donnelly Process Corp. to cover the operation of the older unit, and to discontinue the use of the process.

A third step authorized by Judge Wilson was the settlement of two suits brought against the Cosden interests by Universal Oil Products Co., charging infringement of cracking patents.

On November 12, 1929, Universal sued the Cosden company, charging infringement of the Trumble patent by the operation of the Jenkins cracking units.

In November, 1930, a receiver was appointed for the Cosden Oil Co., a Delaware corporation. In the spring of 1933, the company was discharged from receivership, when its assets were bought by the newly organized Cosden Oil Corp. of Maine.

The latter company installed a so-called Winkler-Koch cracking unit, which began operations in November, 1933, under a Donnelly license.

Universal brought suit against the Cosden corporation on November 6, 1934, alleging infringement by the Winkler-Koch installation of six Universal patents, including the Dubbs clean circulation and the Egloff selective cracking patents, which have been validated by the United States Circuit Court of Appeals for the third circuit, certiorari having been denied by U. S. Supreme Court.

Trustee Richardson, some time ago, applied to the court for permission to install the Dubbs cracking process as a way of rehabilitating the company. After a full hearing to all parties involved, the judge granted this authorization.

In regard to signing the Dubbs license agreement, Judge Wilson in his order said:

"It appears to the court, after hearing the evidence of the said trustee and the argument of counsel as to the advantages to inure to the benefit of the estate by the entering into of such an agreement, that the making thereof would be highly advantageous to such an estate; . . .

"It is, therefore, ordered, adjudged and decreed by the court that W. D. Richardson, temporary trustee, be and he is hereby authorized and directed to enter into the proposed license agreement . . . between Universal Oil Products Co., a Delaware corporation, and the said temporary trustee; . . .

In regard to the Donnelly license, Judge Wilson's order says:

"On this day came on to be considered by the court the application of the temporary trustee, W. D. Richardson, in the above entitled and numbered cause, for authority to terminate and cancel the license agreement and contract dated September 26, 1933, between the Donnelly Process Corp. of Chicago, Ill., and the debtor, and the license agreement and contract dated September 26, 1933, between Petroleum Engineering Co. of America and the debtor; and the court having considered the application and the exhibits thereto attached and having heard the report of the temporary trustee and the argument of counsel in connection therewith, finds that such license agreement and contracts are executory contracts, and that the use of the Donnelly process, covered by such contracts is being questioned by patent infringement litigation in suits against the debtor and claims against its estate and the court is of the opinion that it is to the best interest of the debtor and its estate that said license agreements and contracts should be in all things canceled: It is, therefore,

"Ordered, adjudged and decreed by the court that said license agreements and contracts be and the same are hereby canceled and terminated, and W. D. Richardson, temporary trustee, is directed to cancel and terminate said license agreements and contracts and to discontinue the use of the said Donelly process in the operation of the refinery of the debtor."

Handled a Tough Job

A remarkable performance was made by this bit recently in Tomball field, Tomball, Texas. Going in at the 958-foot level, it drilled through

3,000 feet in 60 hours, an average of over 50 feet per hour. After two other similar Haystellite bits completed the well to 5,494 feet in 42¾ hours more, the casing was set without subsequent reaming.

Three Years Experience in Acidizing Four Hundred Wells Shows It Pays

By W. B. LERCH
Chief Chemical Engineer, Phillips Petroleum Co.

The preparation of an oil well for acid treatment is as important as the actual application of the chemical if best results are to be obtained, and retreatment is often justifiable in such cases.

One of the most important developments in the production of oil during the past three years and a subject of great concern to practically every producer of crude oil has been the acid treatment of lime wells as a method of increasing production. This practice has spread so rapidly there has been little time on the part of many engaged in the work and particularly those indirectly concerned in it to give a real study to the problems involved.

The primary purpose of acid treatment is to accelerate the rate of production of oil and gas and to increase the total amount ultimately to be recovered. If only the rate of production is increased the enhancement of the value of a property through shortened life of investment justifies the use of acid. If to this may be added increased amounts of oil to be ultimately recovered, then the process of acid treating may be considered one of great economic importance.

View showing pump and connections

In this company now, after three years of experience in the acid treatment of hundreds of wells, these facts have been found to be true. During the first year or two of our experience in this work, the majority of treatments were applied to hundreds of lime wells, many of which were practically depleted and ready for abandonment. Likewise, during this time it has also been learned a succession of retreatments followed in the proper order have undoubtedly had the effect of further increasing ultimate recovery of the wells. The general results of the proper application of acid was so noticeably affected that wells have been reconditioned to the extent of either deepening or plugging back with many good wells resulting.

During the past year the number of acid treatments has been considerably less than during the two prior years, since the majority of the work during the past year has been confined to newly drilled wells. In this connection it is of interest to note our records will reveal quite a number of wells which have resulted in commercial producers only because of the acid treatment without which the wells would have been abandoned as dry holes.

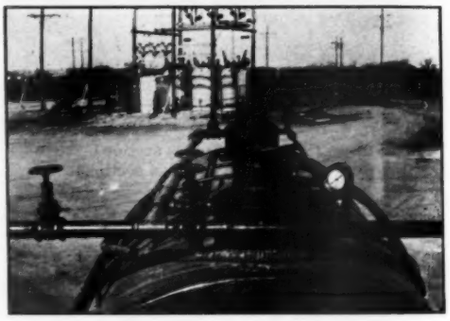
With few exceptions the general procedure or technique of treating is very little different from that practiced at the beginning, other than the fact that new and more effective inhibitors have been developed, and the effects of hot or cold treatments have been fairly well established; however the present tendency is to larger amounts of solution and a shorter shut-in time for reaction. Ordinarily the average treatment consisted of 1,000 gallons of an acid solution of predetermined concentration which was introduced into the well and the well allowed to remain shut in for from 36 to 48 hours. It has now been reasonably determined that the chemical reaction in the reservoir is completed in less time and an ample shut-in time may now be considered as 24 hours. This factor varies with the degree of solubility of the lime horizon being treated and the degree of concentration of chemical used.

Treating Becomes Routine

In view of our experiences in this direction it is believed even though those concerned in our various districts appreciate the economic importance of acid treating at the same time the work is considered too much as a matter of fact or of a routine nature. After a well is once considered in line for treatment and then treated with successful results it cannot be forgotten. Particularly, many wells have been increased above the allowable amount which may be produced, and it is particularly wells of this type which after declining to a point where they no longer make their allowable that consideration should be given to retreatment. The general effectiveness of retreatment in certain areas has been established, so it is evident that in many instances the use of acid after a second or third treatment would simply be a waste of money.

In certain districts the extent of acid treating does not justify the permanent assignment of a treating unit for the area. There are reliable and responsible companies engaged in the commercial acid treatment of wells which are in a position to treat wells on a contract basis. However, since we still maintain acid storage at various points it has been found that such contract work may be done on the basis of furnishing acid and supervision which simply means the rental of a truck unit.

An individual well report of each well treated or retreated is prepared and proves to be an invaluable reference. Too much thought and accuracy cannot be given the preparation of these reports which are a part of the permanent lease file records.

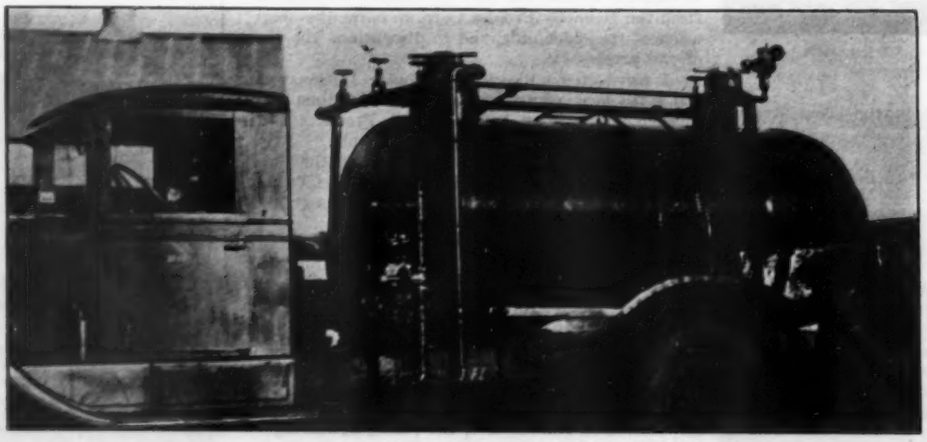


Top view of 1,000-gallon truck showing two compartments and the various connections

The acid treatment of wells is without question an art which involves many hazards, requires the use of proper materials and equipment, and the education of those in charge of the work must be considered. Scientific methods must be practiced in order to obtain the best results. A complete knowledge of the producing formations, materials used, pressures applied, and a careful study of the physical characteristics of the wells to be treated in general are of the greatest importance and must be known beforehand. The preparation of the well before treatment is equally important as the treatment itself.

To date our company has treated 418 wells with 298 retreatments or a total of 716 treatments and retreatments.

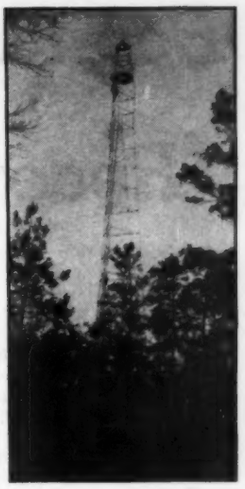
The acid treatment of wells has now been accepted in the industry as a part of its operations. Comparatively, it is an inexpensive procedure but on the other hand is of the greatest economic importance. Our success in this work has only been possible through the cooperation of all concerned.



Combination acid treating and paraffin treating truck. Note pressure gauge and pressure relief valve on vapor system connecting the two compartments of the tanks

Aerial and Ground Mapping Aids Developing New Areas

By WILLIAM BOWIE
Chief, Division of Geodesy, U. S. Coast and Geodetic Survey



Tower used for elevating instruments in the line of sight between triangulation stations

In building interstate pipe lines, locating wildcat wells and in the general development and expansion of various phases of the petroleum industry maps play an important part. A program for mapping the entire country has been undertaken by the federal government, the work to extend over a long period of time. The nature of the work is briefly outlined by the author here.

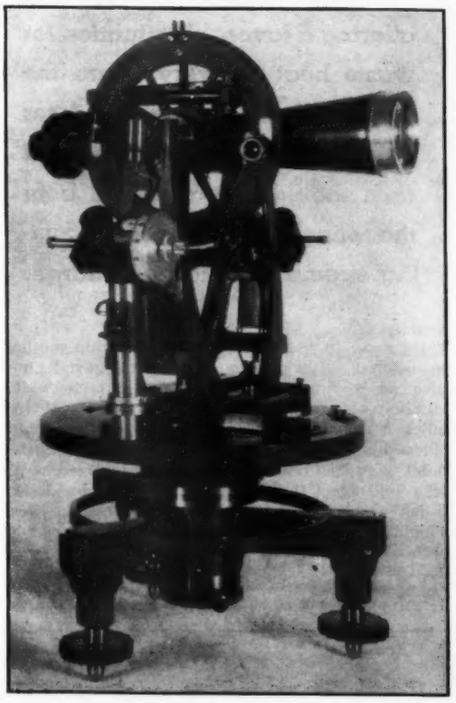
Two of the strongest groups in favor of mapping the entire United States are the geophysicists working in the oil and gas industries. They find their work handicapped at present in areas which are not mapped.

Generally speaking, we have a very poorly mapped country. According to the latest report of the director of the Geological Survey, 47 per cent of the area is covered by topographic maps with only about half of those maps suitable for modern usage. We may therefore assert that only about 25 per cent of our country has adequate topographic maps.

Late in 1934 the Federal Board of Surveys and Maps prepared a plan for the completion of the topographic mapping of the country within a period of 10 years at an estimated cost of $117,531,000.

The Coast and Geodetic Survey has been charged by law with the extension of horizontal and vertical control surveys over the country to furnish positions and elevations to the states. The data secured also furnish the distances and directions between contiguous triangulation stations. The plan that has been followed by the officials of the Coast and Geodetic Survey provides for the spacing of arcs of triangulation and lines of levels at intervals of about 25 miles over the entire country. Already this control work is well advanced. There are now 67,000 miles of arcs of triangulation and about 250,000 miles of lines of levels. The 25-mile spacing of the leveling lines has been practically completed east of the 102° meridian. There remain some thousands of miles of leveling in the western part of the country to get the spacing as close as 25 miles.

About 55,000 miles more of triangulation would be needed to finish the 25-mile spacing. It is reasonably certain that this work will be done well ahead of the needs of the topographic engineers who would base their detailed control surveys on the triangulation stations.



Parkhurst first-order theodolite used for measuring horizontal angles in triangulation

There is much discussion among engineers and other map users today as to what scale the topographic maps should have. It is undoubtedly true that for many purposes the mile-to-the-inch map would be suitable. On the other hand, there are other uses for which there should be a larger scale and a more detailed map than the mile-to-the-inch. In my judgment what we should have are several series of maps drawn to different scales. This method is used in a number of countries, notably in England, France and Germany.

Conservation Measure

The time seems to have arrived when we should plan the use of our natural resources including all that comes from below the surface of the ground —oil, gas, minerals and underground waters. These resources are limited, while the population of the country is increasing rather rapidly.

We should consider that a topographic map is a sort of census of the physical facts for the area covered. These facts are just as essential to the welfare of our people as are the ordinary census data which are collected every 10 years and sometimes oftener.

It is hardly necessary to point out the advantages of topographic maps to geophysicists and geologists. They must know the elevation of the area in which they are working, the slope of the ground, the relation of strata in one place with respect to those in an adjoining region, etc. All of this information can be secured from the map and the control survey data, which are really a part of the topographic map.

Not only are topographic maps of value in the search for oil and gas but they are of great use in arranging for the transportation of men and materials to any region where drilling for oil or gas may be planned. They are invaluable as a means by which the best routes may be selected for pipe lines to carry oil and gas.

The horizontal control survey data on which the topographic maps are based should be the bases for cadastral surveys. In many European countries triangulation now is used in cadastral surveying, and in Massachusetts and the territory of Hawaii all property boundary surveys are tied into the triangulation stations where these are present in the immediate vicinity of the property involved. The matter of leasing and purchasing land is of importance in the oil and gas industry and therefore any survey data that could help to perpetuate the boundaries of land would be of value.

The geodetic surveying is done with such accuracy that the results obtained now should be of permanent value. There will be only a very few places where earthquakes may change in position and elevation the monumented stations and thus disturb the geodetic data. Those areas will be small in extent and therefore need not be given serious consideration.

The service bureaus of the government such as those engaged in making maps are designed to satisfy the needs of the public, but the bureaus themselves must wait for an expression on the part of the public as to what is wanted.

Typical headquarters camp of government triangulation survey party

Economics Involved in the Design of Recovery Equipment for Refineries

By NORMAN T. BUDDINE
Alco Products, Inc.*

A.S.M.E.— In modern petroleum refining only a small part of the large quantities of heat used is actually converted into other forms of energy, thus offering a favorable situation for waste heat recovery. Here the author discusses a method for determining how much heat, if any, should be transferred from the refined streams to the incoming stream of crude oil charge.

The modern processing of petroleum is characterized by continuous operation at a constant load, and by the use of large quantities of heat. Of the heat required, only a very small part is actually converted into other forms of energy, most of it being rejected from the process as heat, and with very little degradation in energy level. This rejection of high-level heat in large quantity is illustrated by the condensation of vapors at temperatures as high as 600° F.; by the cooling of crude residuum from say 650° F.; or by the discarding of flue gas at 700° F. or above.

This is a very favorable situation for waste-heat recovery, and is recognized as such by oil refiners. Waste-heat recovery in the form of transfer of heat from the hot products to the cold incoming feed is universal. As a result the design of heat exchangers has been studied intensively and brought to a high state of development. But the larger problem of tying in the heat exchangers with each other and with the rest of the plant seems to have received less attention in the literature. There is not, to the writer's knowledge, any generally accepted method of attacking this problem as a whole. Apparently each exchanger is studied individually, which neglects a balance between exchangers, or if a complete group of exchangers is considered, there is a tendency to neglect the question of which sources of waste heat are cheap enough to use, and to what extent they should be used. Probably the most common method of designing heat-recovery systems is to decide arbitrarily that certain sources of heat shall be used and then to use enough heat-exchange surface to attain a certain "approach" of the hot-stream temperature to that of the cold stream, this approach being chosen in accordance with the designer's experience.

Eminently satisfactory plants are designed on this basis but there are these objections: The question is very complicated, involving cost of fuel, cost of water, cost of exchangers and transfer rate to mention the most important. For a man to consider all these things in their proper proportion and produce a correct answer without a carefully planned method is difficult if not impossible; furthermore, the designer has no assurance that his arrangement, when arrived at, is the best possible except by a process of trial and error which is far from satisfactory. Again, this requires the attention of a man who is familiar with the whole refining process and who has exceptional ability at coordinating his knowledge.

It is the purpose of this paper to present a more precise method that will enable an intelligent engineer to get a correct result to his problem, given certain basic costs to begin with. The following method is offered as a means toward that end, and also as a time saver. A direct attack which eliminates trial and error is almost always quicker than the alternative of discussion, consideration and final uncertainty. This latter point is offered having in mind those engineers who will object that the ultimate in precise design is not worth the trouble. Even the most skeptical should not object to an exact solution if it can be obtained as easily as a doubtful one.

*Presented at New York meeting of the American Society of Mechanical Engineers.

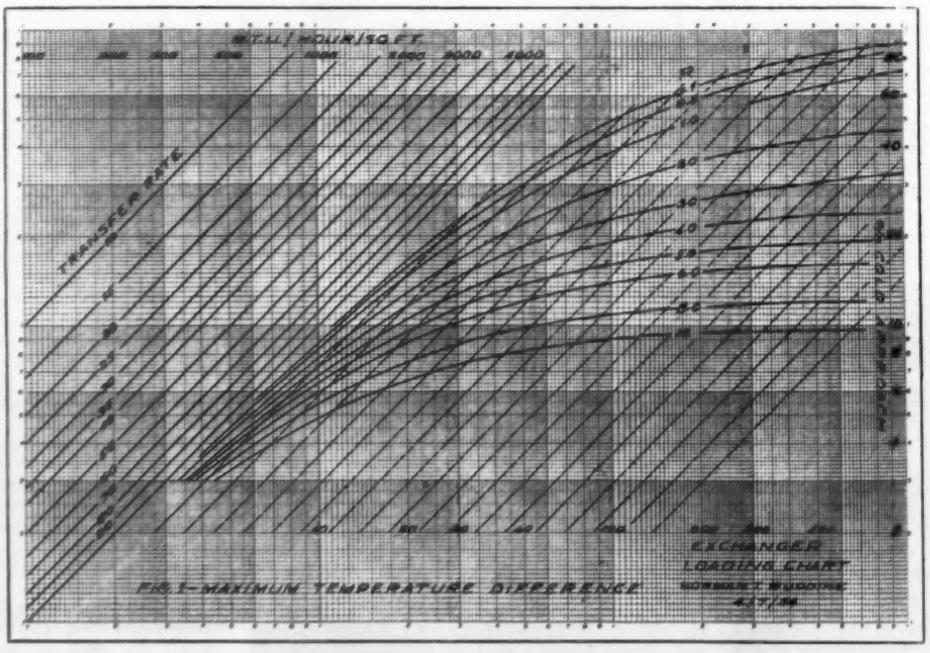


Fig. 1—Chart used to facilitate solving for "a," the corresponding temperature rise, after having determined a minimum recovery value

All petroleum-refining units have these features in common:

1. The sources of waste heat are hot liquids, vapors or gases, fixed in initial temperature and in quantity by the demands of the process.
2. Practically all of this heat is best recovered by transferring it to the cold incoming liquid charge.
3. Due to the greater simplicity of piping, and ease of operation, it is best to arrange the different heat exchangers in series rather than in parallel, although the latter arrangement would often show a small advantage from a thermal viewpoint.

This leads to the conclusion that the possible heat sources should be arranged so that the cold charge contacts them consecutively, and in accordance with the accepted principle of countercurrent flow, they should be arranged in the order of ascending temperature, that is, the hottest last.

The problem then is to determine how much heat, if any, should be transferred from each product to the cold charge. This is an economic question in which a fixed amount of heat must be supplied to the charge for process reasons, and all the available heat sources including the furnace compete to supply it. As each heat source is exploited more intensively it becomes more expensive, and the heat-supplying duty should be so divided that each successive B.t.u. is taken from the cheapest source.

Due to certain differences in direct fired heating, a convenient approach is to divide the load between these two, and then subdivide the chosen total exchanger load. For this the three following estimates should be made:

1. Cost per thousand B.t.u. supplied to the charge by direct firing in the furnace. The main elements of this cost are:
   (a) Additional fuel cost.
   (b) Additional maintenance cost.
   (c) Additional depreciation and interest cost.
2. Cost per thousand B.t.u. removed from the hot products by water-cooled surface in the probable heat-exchanging range if heat recovery is not resorted to. The main elements of this cost are:
   (a) Cost of additional water supplied at the proper place.
   (b) Maintenance of additional water-cooled surface.
   (c) Depreciation and interest charges of additional water-cooled surface.
3. Cost per square foot per year of heat-exchanger surface. This includes:
   (a) Maintenance cost.
   (b) Depreciation and interest cost.

Then the sum of items (1) and (2) may be considered the approximate cost of supplying 1,000 B.t.u. to the charge by direct firing. This is clear when we consider that in general the products must be cooled to the approximate original temperature of the charge, so that every B.t.u. supplied must also be removed again. If we divide item (3) in dollars per foot per year by this total (dollars per thousand B.t.u.) the quotient is in thousands of B.t.u. per year per foot, and represents the minimum heat-recovery duty which each square foot of heat-exchanger surface must perform to be a cheaper heat source than the furnace. Then since the duty of each square foot of surface added to a heat exchanger is less than that of the preceding one, all that is necessary is to add surface added to a heat exchanger is less than that of the preceding one, all that is necessary is to add surface to each exchanger until the duty of the last square foot has fallen to this value.

Here the objection might be made that cost per thousand B.t.u. supplied to the charge by direct firing, and cost per thousand B.t.u. of watercooling are partly determined by the extent to which ex-

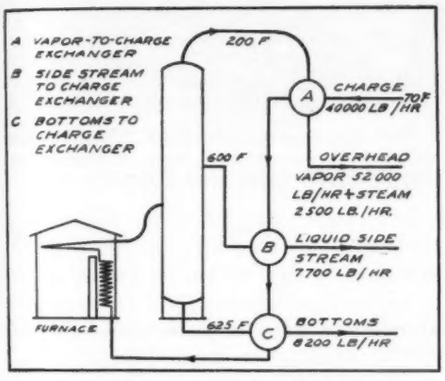


Fig. 2—Typical rerun still showing heat exchangers for transferring heat to crude oil

changers are used. Actually, both of these costs are affected comparatively little by the exchangers.

The designer of the furnace will be guided by several factors, such as (1) available draft; (2) type of fuel; (3) protection of oil quality; (4) temperature of charge entering furnace. Exchangers influence the unit cost of furnace heating only through (4), a minor factor, and by reducing the total furnace size. The combined effect of these is not appreciable.

As for the unit cost of water cooling the products, the same is true although in lesser degree, and a fairly close estimate can be made before designing the exchangers. In any case, both of these estimates can be rechecked after the exchangers are designed.

In order to determine just how many additional B.t.u. per hour are recovered by adding one square foot to an exchanger, the following equation has been derived:

$$\frac{dQ}{dS} = U \times D \times (1 - A)\,(1 - Ra)$$

$\frac{dQ}{dS}$ = Additional B.t.u. per hour which will be recovered if one more square foot is added to the exchanger.

U = The rate of heat transfer in B.t.u. per hour per sq. ft. per deg. F.

D = Entering temperature of the hot fluid minus entering temperature of the cold fluid.

$$R = \frac{\text{Temperature range of hot fluid}}{\text{Temperature range of cold fluid}}.$$

a = Fractional approach of cold fluid

$$= \frac{\text{cold-fluid temperature change}}{D}$$

Our problem, however, is to solve for "a" knowing the other factors. That is, having determined a suitable value for minimum B.t.u. per hour per square foot must be recovered, find the corresponding temperature rise through this unit. Since the above equation is unwieldy for this purpose, Figure 1 has been prepared. To use this, enter the chart on the top scale with the proper value of $\frac{dQ}{dS}$, go down vertical to the estimated transfer rate, across horizontally to the correct value of D (bottom scale) up diagonally to the R value and out horizontally to the correct value of a.

To summarize the method:

1. Determine cost per thousand B.t.u. added to the charge.
2. Determine cost per thousand B.t.u. removed from products.
3. Determine cost per square foot per year for heat-exchanger surface.
4. Add (1) and (2) to get total cost of direct firing in dollars per thousand B.t.u.
5. Divide (3) by (4) to get minimum duty required of heat exchangers in B.t.u. per square foot per year.
6. Divide (5) by estimated service hours per year to get minimum B.t.u. per square foot per hour.
7. Determine R for each of the heat sources and estimate U.
8. Determine D for the first exchange, i.e., the coldest stream.
9. Determine a from Figure 1.
10. Multiply a by D which gives charge rise through the first exchanger, and determines D for the second.
11. Repeat steps (9) and (10) for each exchanger. If an exchanger should be omitted, it will be found on reading Figure 1 that proceeding diagonally from the D-reading, one is too far to the left to intersect the R-lines.

Estimates of the first three items follow:

1. Estimated heat transferred per square foot of furnace surface in B.t.u. per hour per square foot—5,500. This gives 0.182 square foot per thousand B.t.u. per hour.

Estimated operating cost of additional furnace surface in dollars per square foot per year:

(a) Depreciation and capital charges..	$1.20
(b) Maintenance (repairs, cleaning, inspection)	0.31
Total—Dollars per sq. ft. per year	$1.51

Estimated B.t.u. per square foot of furnace surface per year assuming 7,500 hours of operation:

$$5{,}500 \times 7{,}500 = 41{,}200{,}000$$

Estimated operating cost of additional furnace surface in dollars per thousand B.t.u.:

$$\frac{1.51}{41{,}200} = \$0.0000366$$

Estimated fuel cost (assuming 60 per cent of heating value reaches charge) in dollars per thousand B.t.u.: $0.000201

Estimated cost of 1,000 B.t.u. supplied by furnace (total):

	$0.0000366
	0.000201
	$0.000238

2. Cost per thousand B.t.u. removed from the hot products in the exchanger range by water-cooled surface:

(a) Estimated cost of water at the exchanger nozzle = $0.00003 per 1,000 B.t.u. removed.

(b) Estimated mean temperature difference in the competitive range = 300° F.

(c) Estimated transfer rate for this service = 60.

TABLE 1—MINIMUM DUTY OF HEAT EXCHANGERS B.T.U. PER HR. PER SQ. FT. PER DEG. F.

Water cost, $ per 1,000 gal. at exchangers nozzle—	Fuel cost, $ per million B.t.u. 0.05	0.075	0.10	0.125	0.15	0.20
$0.0025	1,480	1,110	900	760	654	514
0.005	1,410	1,070	875	742	640	507
0.01	1,290	1,000	825	705	614	489
0.02	1,090	880	740	644	567	458
0.03	959	789	676	593	529	434

(d) Estimated square feet required for 1,000 B.t.u. removed per hour:

$$\frac{1{,}000}{60 \times 300} = 0.0557 \text{ sq. ft.}$$

(e) Cost of operating 1 square foot per year (see below) = $1.495.

(f) Heating surface cost of 1,000 B.t.u. removed assuming 7,500 service hours per year:

$$\frac{\$1.495 \times 0.0557}{7{,}500} = \$0.0000111$$

(g) Total removal cost of 1,000 B.t.u. using water-cooled surface:

(a + f)	$0.00003
	0.0000111
	$0.0000411

3. Assume an average first cost for exchangers of $2.50 a square foot and increase this to $4.50 a square foot for added cost of installation, piping

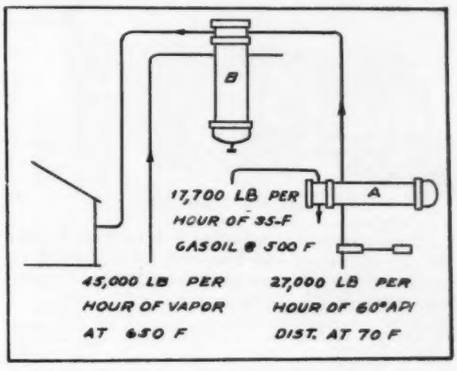


Fig. 3—Portion of a reforming unit showing heat exchangers and throughput of oil

and values, etc., and assume a payoff period of five years. Then estimated annual cost of exchanger surface is:

Depreciation	$0.90
Maintenance (repairs, cleaning, inspection)	0.46
Interest charges	0.135
Total	$1.495

Then carrying out steps (4), (5) and (6):

(1) + (2) =	$0.000238
	0.0000411
	$0.000279

$$\frac{(3)}{(1)+(2)} = \frac{\$1.495 \times 1{,}000}{0.000279} = 5{,}350{,}000 \text{ B.t.u. per sq. ft. per yr.}$$

$$\frac{5{,}350{,}000}{7{,}500} = 714 \text{ B.t.u. per sq. ft. per hr. which is the value to be used on the chart, Figure 1.}$$

Inspection of the above estimates shows that about 85 per cent of item (1), the cost per thousand B.t.u. added to the charge, is fuel cost. The remainder is an estimated operating cost for additional furnace surface which is a comparatively constant value.

Similarly, about 75 per cent of item (2), cost per thousand B.t.u. of cooling, is water cost. The remainder is an operating charge on the cooling surface, which is also a comparatively constant value.

Again, item (3) is a surface-operating charge and comparatively constant.

Based on these observations, Table 1 has been prepared which shows minimum B.t.u. per hour per square foot which should be transferred by heat exchangers to justify their use, for different values of fuel and costs of water. Surface-operating costs are taken as the average values shown

above, and it is assumed that the water is heated through 45° F.

Application of the Method

To illustrate the use of the method, several examples are given, the first of which is illustrated in Figure 2, which represents a fairly typical solution rerun still. Necessary data are shown, and the points at which we wish to consider the installation of heat exchangers, marked A, B and C. Assume fuel at $0.15 per million B.t.u. and water available under pressure at $0.015 per thousand gallons. The solution is as follows:

Step	Exchanger	A	B	C
1–6	Minimum B.t.u. per hr. per sq. ft. per deg. F. (from Table 1)			= 591
7	R	0.138	4.24	4.43
	U	35	40	25
8	D	130	....	....
9	a	86%	22%	21%
10	Charge rise	112° F.	92° F.	74° F.
	Charge outlet temp.	182° F.	274° F.	348° F.
11	D	418° F.	351° F.	

Preheat temperature = 348° F.

Now assume only $0.05 per million for fuel, and $0.005 per thousand gallons for water. The steps are repeated:

Step	Exchanger	A	B	C
1–6	Minimum B.t.u. per hr. per sq. ft. per deg. F. (from Table 1)			= 1,410
7	R	0.138	4.24	4.43
	U	35	40	25
8	D	130	....	....
9	a	66%	22%	18.4%
10	Charge rise	56° F.	97° F.	69° F.
	Charge outlet temp.	156° F.	253° F.	322° F.
11	D	444° F.	372° F.	

Preheat temperature = 322° F.

This change in recommended preheat is only 26° F. However, the heat-exchanger surface required in the two cases, assuming that the estimated transfer rates hold, is:

Exchanger	A	B	C	Total
348° F. Preheat	1,210	405	686	2,304
322° F. Preheat	645	394	290	1,329

This shows a surface-requirement increase of nearly 75 per cent for the last 26° added to the charge. To put it another way, 57 per cent of the total exchanger surface heats the charge from 70° F. to 322° F., while the other 43 per cent supplies only the rise from 322° F. to 348° F. This demonstrates a point well known to engineers but usually neglected because of the difficulty of using it, namely that a B.t.u. has a higher value, or cost, at a higher temperature. The difficulty lies in the fact that the premium of high-level over low-level varies with the primary heat-source level. When heating with 240° F. steam, the cost of heating anything from 200° F. to 210° F. is much higher than the cost of a 10° rise from 100° F. On the other hand, if the heat is from direct firing, the difference is much lower.

Another example is shown by Figure 3. This is part of a reforming unit. The quantities are as shown. Assume $0.05 per million B.t.u. for fuel and water at $0.02 per thousand gallons, then assume the cost of water is decreased to $0.0025 per thousand gallons, the fuel cost remaining the same.

Water—$0.02 per thousand gallons.
Fuel — 0.05 per million B.t.u.

Step	Exchanger	A	B
1–6	Minimum duty = 1,090		
7	R	1.23	0.436
	U	40	36
8	D	500	650
		70	370
		430	280
9	a	70%	43%
10	Charge rise	200° F.	230° F.
11	Charge outlet	370° F.	600° F.
Estimated heating surface		1,170	1,075
Total heating surface		2,245 sq. ft.	

Water—$0.0025 per thousand gallons.
Fuel — 0.05 per million B.t.u.

Step	Exchanger	A	B
1–6	Minimum duty = 1,480		
7	R	1.23	0.436
	U	40	36
8	D	500	650
		70	341
		430	309
9	a	63%	90%
10	Charge rise	271° F.	247° F.
11	Charge outlet	341° F.	588° F.
Estimated heating surface		775	1,000
Total heating surface		1,775 sq. ft.	

The effect of cheaper cooling water is to decrease the economical preheat from 600° to 588° F. and the proper amount of exchanger surface from 2,245 square feet, total, to 1,775 square feet, about 22 per cent. Here the point is not the comparatively minor choice between 1,775 square feet and 2,245 square feet, but the knowledge it gives the designer that the proper preheat is about 600° F., and that in one step he has approximated this preheat and divided the exchangers surface correctly. Further, if his basic assumptions are good his choice is the best possible.

The third example is a somewhat different application. It is that of a waste-heat boiler for diesel exhaust gases. Assume the conditions of Figure 4. Assume further that the unit will operate for 5,250 hours per year, that it is desired to generate 100-pound gauge steam, and that the

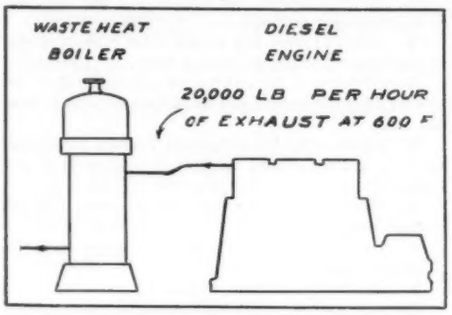


Fig. 4—Waste heat boiler for efficient utilization of diesel exhaust gases

estimated value of this steam is $0.30 per 1,000 pounds. Then following the steps outlined above:

Steps
1 Omitted.
2 Omitted.
3 Estimated cost per year per sq. ft. of waste-heat boiler surface—$0.80.
4 Cost of direct firing, of course refers to cost of steam from the boiler house, and equals $0.30 per 1,000 lbs. For 100-lb. gauge pressure steam with 90° F. feed the B.t.u. per pound of steam generated equals 1,133.
Cost per 1,000 B.t.u. = $0.30/1,133 = $0.000265
5 $\frac{\$0.80}{\$0.000265}$ = 3,020,000 B.t.u. per sq. ft. per yr.
6 This equals $\frac{3,020,000}{5,250}$ = 575 B.t.u. per hr. per sq. ft. min.
7 Determination of R:
R is defined as $\frac{\text{Temperature range of hot fluid}}{\text{Temperature range of cold fluid}}$ and a as per cent cold approach. It is perfectly permissible to interchange hot and cold fluids, calling R the reciprocal of the above value, and a the per cent hot fluid approach. It is necessary in this case, in order to use the chart, Figure 1, then R = 0 and a will be per cent hot approach. Assume U = 5.0.
8 Then D = 600 — 338 = 262° F.
9 From Figure 1, a = 56 per cent (R = 0 is practically the same as R = 0.1).
10 Then temperature drop of exhaust should be 262 × .56 = 147° F., and recommended range of exhaust is from 600° F. to 453° F., or an approach of 115° F., which means that this heat source is good for about 620 lbs. per hour of 100-lb. steam.

For a case such as this, where one of the media is at constant temperature, the final square foot exchanges heat at the outlet temperature difference. Then since this last square foot must recover at least 575 B.t.u. per hour, and the transfer rate is 5.0, the lowest permissible temperature difference is 575/5 or 115° F., which checks the chart result. This direct method without the chart will serve only for the case where one medium is at constant temperature or for parallel-flow heat exchange.

In the above problem, if we wished to generate 15-pound steam rather than 100-pound steam, and valued it at $0.20 per thousand B.t.u., the minimum duty would become 864 B.t.u. per hour per square foot, D would become 600/249 or 351° F. Then minimum temperature difference would equal 864/5 or 173° F., and exhaust gas range would be from 600° F. to 422° F., which means that this heat source is good for about 750 pounds per hour of 15-pound steam.

These applications illustrate the general use of the method. It is not intended that the figures for costs of water, fuel or surface be regarded as hard and fast. A reasonable amount of investigation has convinced the writer that no average-cost figure is easily defended. It is for this reason that the steps are outlined in complete detail, so that each user can substitute more precise figures for a particular case. On the other hand, for a preliminary estimate the figures given have been chosen to give good general results and may be safely accepted on this basis.

The author wishes to acknowledge certain valuable suggestions made by J. S. Carey, formerly of Alco Products, Inc., and by T. D. Tifft, of the Sinclair Refining Co., in connection with the preparation of this paper.

APPENDIX

Equations

The derivation of the equation for determining the minimum economical heat recovery per square foot of exchanger surface follows.

The basic equation of convected or conducted heat is:

$$Q = S \times U \times Mtd \qquad (1)$$

where:

U = Heat-transfer coefficient in B.t.u. per hour per sq. ft. per deg. F.

Q = B.t.u. per hour transferred.

S = The area through which it is transferred in sq. ft.

Mtd = The average temperature difference between the ends of the heat path in F.

For the usual conditions, of fairly constant value of U, the constant ratio of temperature change to heat content change for both fluids:

$$Mtd = \frac{\Delta t_1 - \Delta t_2}{\log_e \frac{\Delta t_1}{\Delta t_2}} \qquad (2)$$

where Δt_1 and Δt_2 = the terminal-temperature differences.

Substituting this value of Mtd in (1) we get:

$$\frac{Q}{S} = U \times \frac{\Delta t_1 - \Delta t_2}{\log_e \frac{\Delta t_1}{\Delta t_2}} \qquad (3)$$

This equation gives the average B.t.u. per hour per square foot of heat transferred through a definite portion of surface for any given terminal-temperature conditions and any given value of U.

Now let D = the temperature difference between any two given media before any heat is transferred. Then for any given amount of heat interchange and countercurrent flow:

$$\Delta t_1 = D - r_c \qquad (4)$$

$$= D - r_h \qquad (5)$$

where r_c = temperature rise of the cold medium.
r_h = temperature drop of the hot medium.

Let W_h and W_c = the pound per hour of water having equivalent heat capacities to the fluids under discussion. Then:

$$\Delta t_1 = D - \frac{Q}{W_c} \qquad (6)$$

$$\Delta t_2 = D - \frac{Q}{W_h} \qquad (7)$$

Substituting these values in Equation (3):

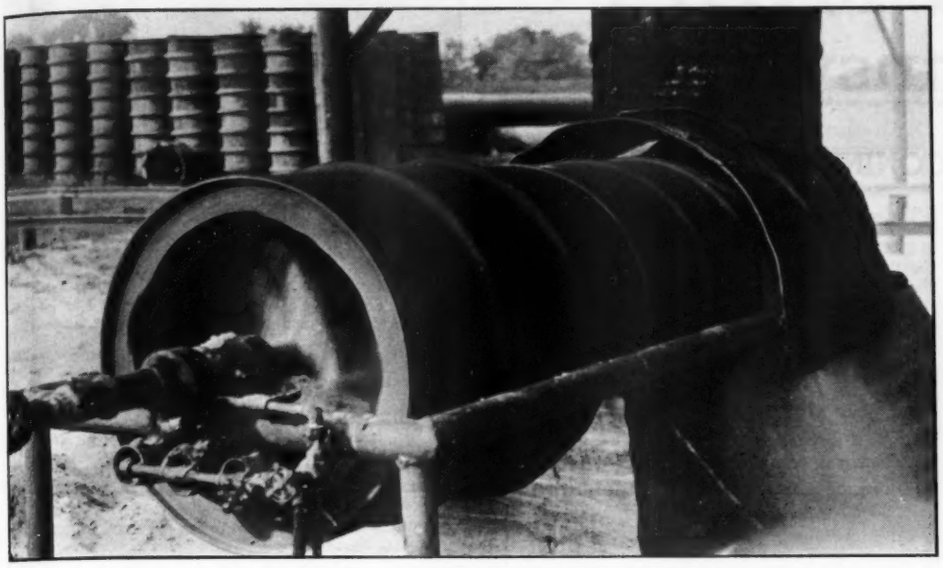
$$\frac{Q}{S} = U \times \left[\left(\frac{Q}{W_h} - \frac{Q}{W_c} \right) \Big/ \left(\log_e \frac{D - (Q/W_c)}{D - (Q/W_h)} \right) \right] \qquad (8)$$

rearranging

$$S = \frac{1}{U} \log_e \frac{D - \frac{Q}{W_c}}{D - \frac{Q}{W_h}} \times \frac{W_c - W_h}{W_c - W_h} \qquad (9)$$

(Continued on Page 41)

OPERATING IDEAS

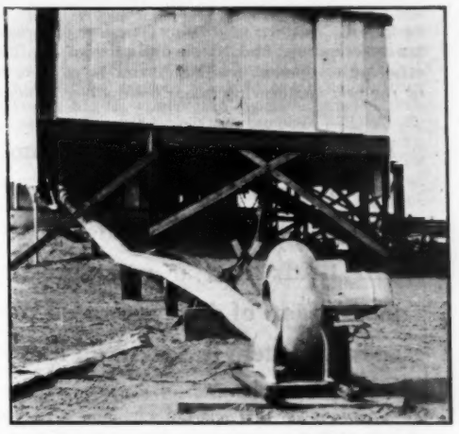


Sand Drying Machine Made Out of Oil Drums

The accompanying photograph shows a sand drying machine which was improvised for use by a Texas pipe line company at its sand blast pipe-cleaning plant near Edna, Texas. The drier was built from old oil drums fastened end to end, the tops and bottoms being removed. The drums are mounted horizontally on an axle, which revolves when the machine is in operation. Lengthwise and on the interior of the shell, four baffles are fastened which serve to keep the sand in constant motion. The drier is heated by three gas burners at the front which blow flames through the machine. Sand is shoveled in the front end of the machine, and by the revolution of the shell of the drier it is kept in motion and blown to the back end. Screens for sifting the coarser sand and gravel are placed at the back end of the drier, the coarser particles of sand being discarded out the back. The desirable sand sifts out the sides and bottom of the screen for shoveling to the sand blast.

Blower Removed from Rig

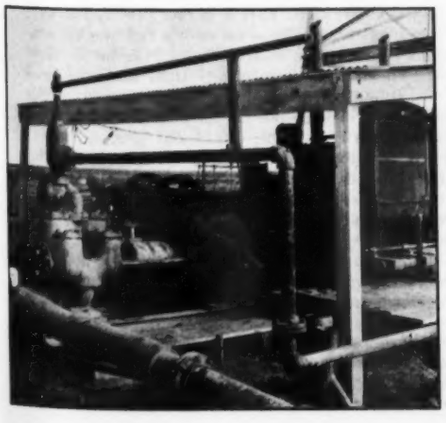
One very effective measure as a means of fire prevention has been put into effect by a major contractor in the New Mexico field, the measure consisting of removing the blower for the electric motor to some distance from the rig. This is done in order that a supply of fresh air might be had at all times. When drilling in gas formations if a conventional motor is used, one which is self-ventilated, or if the blower is placed



in the rig near the motor to which it is supplying fresh air there is always the danger of igniting the gas fumes. In either of these cases if gas is present in the air blown into the motor a fire might result from a spark.

Extension on Relief Valve

In most cases when the pressure becomes sufficiently high to cause the relief valve on the mud line to open the fluid is allowed to spray into the air, resulting in covering the pump with mud and endangering any of the crew who might be near. One company operating rotary tools in the Altus field has entirely eliminated this inconvenience by installing an extension on the safety valve. Due to the high pressure required to force the mud into the hole these valves are set at a fairly high pressure.



Leveling Off Concrete Tank Foundation

In the sand dunes of New Mexico and West Texas it is difficult to make a satisfactory dirt grade for either wooden or steel tanks and it is therefore common practice to pour a concrete foundation. The accompanying picture shows the method followed in leveling the top of a foundation for a 500-barrel capacity tank. The man in the middle of the grade is holding the end of the sweep on top of a stake driven to the desired level. The man outside the form is moving this sweep resting his end of the level on the upper edge of the form made of band steel the form being completely fabricated and leveled before the concrete is poured.

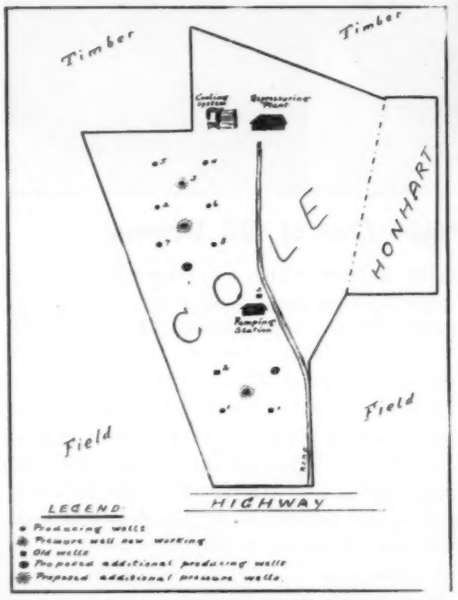
Repressuring Sands With Gas in Pennsylvania

By R. C. CONINE

Movement of outside capital into the field of advanced secondary recovery in the Pennsylvania oil fields has greatly stimulated interest in the newer methods among the old line producers. The newcomers will not consider old methods and their eighth of a barrel a day producers. Their development program begins with the coring of wells, the design of a pattern of drilling based on the resulting information, and the installation of the most efficient equipment available, and is carried out by the best engineering talent obtainable. In nearly every case these new operators include a number of tests for the deeper formations in their programs.

Repressuring with gas is becoming a more popular method of producing oil in the older Eastern fields and a most recent installation of this type of oil recovery system is described here.

A most recent development program is that of Robert E. Leyendecker, of New York City, who has leased properties in the Warren and Pithole districts. The Warren lease, on the Cole and Honart farms, includes 108 acres and has been completely equipped for repressuring with gas in an initial development. The compression and pumping plants will be changed as the need for modifications becomes apparent. The Pithole district lease, on the Benedict and Dunham farms, includes 215 acres. Although secondary development plans for this lease exist on paper only at the moment, the first test drilled on it Wednesday (December 18) makes it of special interest and assures an intensive recovery program.



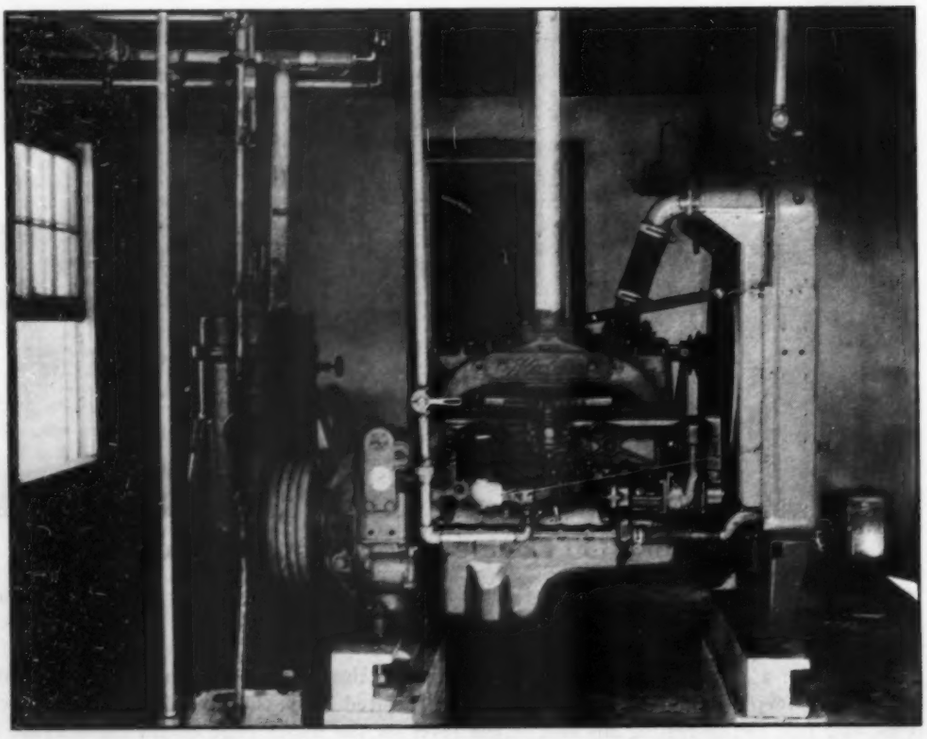
Outline of Leyendecker-Cole-Honhart lease

Shooting well No. 2 on the Warren lease

Veteran drillers at the Pithole district well estimate that it will register an initial production of 15 bbls. a day from the Third sand without shot. Core samples show a good oil saturation in the Second sand, but the character of the oil and formation will make a shot necessary in this stratum before production will result. Oil from the Third sand is unusually lively, of high gravity, and stood from 140 to 180 feet in the hole throughout the day following its drilling in with the bailer running at half-hour intervals until the available tankage, 9 bbls., was filled. The First sand was dry, found at 450 feet. The top of the second sand was at 550 feet, and the top of the Third sand was encountered at 650 feet. The well will be completed with a 100-foot pocket. Mr. Leyendecker said that the well will not be shot. A packer will be placed at the 475-foot level to pack off the water bearing salt sand between the First and Second sands. Plans for this lease call for the drilling of 22 wells, six of them pressure inlets, and the installation of a complete repressuring system. It is believed that the Queen sand underlies this area at a depth of 1,300 feet, and the plans include a test to this formation to obtain gas for repressuring.

On the Warren lease, Mr. Leyendecker has 10 wells hooked up with an 18-foot bandwheel power. The 15,000 feet of gas now produced on the property is introduced to the Glade sand through a pressure well affecting a single five spot. An additional pressure inlet is now being drilled and cored, and location for a third has been staked. Spacing for oil wells, present and future, is approximately 150 feet, with the distance from pressure inlet to oil producer about 114 feet. The top of the Glade sand is found at 760 to 810 feet on this lease. After reconditioning three old wells and before completion of the secondary recovery plant production averaged half a barrel per well a day. While pressure has been on only a few weeks, beneficial results are already noted in the initial five-spot. The sand is exceedingly tight and pressures of 350 to 360 pounds are required to introduce the 15,000 feet of gas per 24 hours. Although new producers will provide additional gas, it is expected that the requirement of 60,000 feet for the three pressure inlets when completed will call for the use of some air with the gas. Increased oil and gas production due to effect of repressuring may provide sufficient gas, however.

The accompanying diagram of the Cole and Honhart farms shows the well and equipment arrangement on the Warren lease. The shaded portions of the Pithole (Neiltown) district represent the Leyendecker holdings. The solid square on the north boundary of the Benedict farm is the location of the 15-bbl. well recently completed. Locations of seven repressuring plants are also shown.



View of repressure plant on the Warren lease showing multicylinder engine and compressor

PROBLEMS FROM READERS

Edited by T. F. Smiley

Water With the Oil Probably Offers Reason for Sucker-Rod Trouble

Maybe you can tell me the reason I am having so much more trouble with sucker-rod failures in some of my wells than in others. The rods were second-hand when I bought them, but they were in fine condition and they were made by one of the best manufacturers of oil-field equipment. I have noticed that the rods that fail quickest are in wells that make more or less water with the oil, in some cases very little. Would that make a difference? There is a little sulfur in all the oil here, but if that is the trouble it is not clear to me why it is not the same in all the wells.—E. E. L.

This is scant information on which to base advice, but the probability is that you yourself have hit upon the source of the trouble, namely, the water that is produced with the oil. Great improvement in sucker-rod manufacture has been achieved in recent years. It is recognized that no one sucker-rod is likely to be suitable for all types of service, with the result that manufacturers are offering several different grades. This is a period of experimentation, out of which probably will emerge not more than four types of rods capable of meeting the requirements of all types of service. In your own case the most directly pertinent fact seems to be that oil of pronounced sulfur content creates a problem only when water is produced with it. The following from a paper prepared by Blaine B. Wescott and C. Norman Bowers, of the Gulf Research & Development Corp., should be of interest to you, as it points out the importance of selecting sucker-rods with a view to their particular adaptability to conditions in the field where they are to be used:

"The two most important factors to be considered when selecting sucker-rods are the weight of the well and the degree of corrosivity of the fluid produced. The first of these factors is fixed by the depth to the fluid, size of pump, length and speed of stroke and the gravity of the fluid produced. The weight of a well, or, perhaps more accurately, the stresses imposed on sucker-rods may be varied almost at will by adjustments of the three pumping conditions subject to control of the operator; namely, the size of pump and the length and speed of stroke. Sucker-rod failures can literally be controlled at will by regulation of pumping conditions, and it becomes the problem of each operator to decide when the proper economic balance is obtained between value of extra oil produced and cost of the consequent increased well trouble.

"The degree of corrosivity of the fluid produced is determined generally by the presence or absence of hydrogen sulfide. Hydrogen sulfide, which is usually associated with production from lime and seldom from sand, always is responsible for increased trouble from underground equipment if water is being produced with the oil; in the absence of water it presents no problem. While there are certain nonsulfide fields that produce corrosive brine with the oil, the problems they present are neither as numerous nor as serious as those encountered in the sulfide fields.

"The kinds of service, therefore, for which sucker-rods should be designed are: (1) Noncorrosive fields; (2) corrosive, nonsulfide fields; (3) corrosive, sulfide fields. There are no sharp dividing lines between these three classes of service nor does it necessarily follow that all wells within a single field belong in the same class. Occasionally it may be found advantageous to subdivide one or more of the classes into light and heavy pumping wells. In the final analysis, it is advisable to make the classification in accordance with the grouping suggested, or by any other method been given to each well individually. It is essential that adequate individual well records be available if the greatest economy in production operations is to be assured.

"There is no single physical property by which the suitability of a steel or iron for sucker-rods may be judged. Furthermore the common physical properties as ordinarily provided are of little value in making a selection of sucker rods, and if the choice is based solely on these properties it is certain to prove expensive in many instances. Some of the physical properties that are not ordinarily determined are of much greater importance and should be given careful consideration."

Readers are invited to send questions relating to drilling, producing and transporting operations. These questions will be referred to persons capable of answering authoritatively. The names of those writing for information will be held confidential, initials only being published. This department cannot undertake to answer questions involving royalty or other investments, patents or intricate formulas or questions which should be submitted to consulting engineers, geologists or lawyers.

WHY THEY CALLED IT

Ditcher

The ditcher, so called because it digs the trench which used to require an army of men with picks and shovels, is a standard item of the pipe line contractor's equipment. It led to invention of the submarine plow, which opens a ditch in the ocean bed and lays telegraph cable in it. The plow consists of an iron deck and frame with a double plowshare of cast steel on the front end. Secured to the upper side of the plow deck are two bell-mouth cable guides through which the cable passes to a curved guide in which it travels downward, through an opening in the deck, as it is paid out and laid into the trench immediately behind the plow. The front of the plow is enclosed by a heavy mesh screen. The complete plow weighs about 2 tons and is 10 feet long.

Portable Rotary Drilling Outfits Are Valuable in Doing Wildcat Work

Will you give me a little information about portable rotary drilling outfits suitable for drilling test wells in wildcat areas? I understand they are being used a good deal now. I don't know much more about them than I have read in the advertisements. How deep a hole, and what diameter, can be drilled with them? What type of engine is used? Do they have very clear advantages over the regular rotary outfits in drilling operations in wildcat territory? I guess it would be well for me to mention here that I am not in the market for one of these drilling outfits at all. I would like to have information regarding them for another purpose.—E. A. E.

Portable rotary units have their limitations, but within these limitations they possess advantages. Their introduction grew out of certain considerations attending the use of the modern heavy-duty rotary outfit, which represents an investment of more than $50,000, costs about 20 cents per ton mile to transport and requires a week or so to rig up.

It is estimated that moving a portable rig 100 miles and rigging up costs $250 to $400 less than moving a heavy-duty outfit the same distance. It is common practice to drill one well a month to 4,000 feet with a portable outfit. Thus the saving to the drilling contractor in the course of a year is an important item. It has been estimated the average 4,000-foot test drilled with a portable outfit will cost about $27,000 to $30,000.

There are two types of portable outfits in general use in the Mid-Continent area. They are the skid-mounted type and the outfit that is permanently mounted upon a truck.

Both types are capable of drilling 6-inch diameter holes to about 4,000 feet without being overloaded. These units can drill 11-inch holes if necessary, limitation here lying not in ability to rotate the bit but rather in the capacity of the mud pumps that can be considered portable. In actual practice the 6-inch hole is the one usually drilled, larger diameters increasing the cost.

One important item of saving is in weight of material moved. A truck mounted portable unit will weigh complete about 42,000 pounds. The portable outfits can be rigged up in one day, which permits a saving in expenditure both in starting and completing the hole. If oil in commercial quantity is found the well can be put on production, but offset wells will be drilled with regular rotary outfits.

Portable units are usually powered with internal combustion engines that will operate on gasoline or natural gas and develop about 125 horsepower at maximum speed of 1,800 r.p.m. Two such engines usually are used and they are so hooked up they can be operated independently or together as the work requires. To drive the slush pump and rotate the turntable one of these engines has ample power. The turntable will not require more than 45 horsepower under most adverse conditions and during most of the drilling operation does not consume much more than half of that amount of power.

With the truck-mounted outfits the engine under the hood is of the same size and type as the independent engine that is mounted upon the truck bed. By a system of power transmission, by means of which the engine power is delivered to pump, drawworks or turntable, the unit that is truck mounted is able to utilize the power from the engine used to drive the truck for most of the work and the independent motor is started up when added power is needed, particularly for handling drill pipe into or out of the hole.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit problems to Dr. C. K. Francis. Questions should give as much detail as possible. Inquiries must be signed but only the given initials will be printed. The source of questions is considered confidential. Questions requiring discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered in these columns.

Reason for the Use of Steam in the Distillation of Oil

Why is steam used when distilling crude oil, as in a still or flash tower? What effect has it on the oil?—F. B.

Water evaporates from a wetted surface or from a lake, ice disappears when the temperature is below the freezing point of water and some oil spilled on the concrete surface soon vanishes.

The evaporation of all liquids and many solids is taking place at temperatures far below their boiling points.

The explanation is in the property called vapor pressure. This may be measured by simply placing a small quantity of the substance in a barometer, where the depression in the column of mercury is the vapor pressure of the substance at the observed temperature. There is a continuous escape of particles from the surface of a liquid into the free space above it. This is the reason for odor, especially valued in the case of perfumes.

Elevation of temperature causes a rise in vapor pressure. The temperature at which the vapor pressure equals, or slightly exceeds, the atmospheric pressure is the boiling point. At this stage evaporation is taking place at the surface, throughout the liquid, along the sides and at the bottom of the vessel being heated. An inert vapor such as air or steam, moving over the surface of a boiling liquid will act to remove the vapors of the liquid, causing evaporation to proceed at a more rapid rate. These vapors are carried through the cooling system to be condensed and thus distillation is speeded up. In addition to accelerating the change, moving steam also permits distillation to go on at a lower temperature.

When distilling oil, it would be hazardous to introduce air; the inert material water in the form of steam is both safe and convenient. Each particle of steam passing through an oil liquid or vapor forms a space into which evaporation of the oil is possible. Gurwitsch, in Petroleum Technology, page 301, states:

"The action of the steam may be stated as follows: The formation of very numerous small steam bubbles brings into existence an enormous free surface within the body of the oil, and evaporation of the oil takes place at this surface; the oil vapors formed, which of themselves would not have sufficient tension to overcome the pressure of the atmosphere, that is, to distil over, add their tension to that of the water vapor, which has expanded in the meantime, and as the total tension of the vapor mixture then exceeds the pressure of the atmosphere, a regular distillation is inaugurated. In other words, owing to the enormous extension of the surface of evaporation and the assistance of the vapor tension of the steam, the distillation of an oil may be carried out at a temperature at which its vapor pressure is much less than atmospheric pressure, i.e., a temperature which is much lower than the boiling point of the oil.

"As petroleum is not an individual chemical compound, but a mixture of very numerous substances, its vapor tension during distillation at constant temperature naturally does not remain constant, but continually decreases. The steam distillation of petroleum may therefore be carried out in three different ways: (1) Isothermally, that is, by the maintenance of a constant temperature. The oil content of the oil and water distillate in this case steadily and rapidly falls off, and consequently the steam consumption on the weight of oil distilled increases greatly for the higher fractions. (2) By the maintenance of a constant proportion of weight of water to oil. The temperature then rises rapidly during the distillation, and slight cracking occurs in the higher fractions. (3) By gradually increasing both the temperature and the quantity of steam employed. This is the usual method of working in practice."

Additional benefits derived from the use of steam in the distillation of petroleum, include prevention of decomposition, cracking, and the removal of part of the impurities, such as acid and hydrogen sulfide.

Lubricating Oil of Gas Engine Contains Suspended Carbon

We are operating a gas engine and have considerable trouble with its lubrication because suspended carbon develops in the lubricating oil after short periods of runs. We discard the oil after it shows approximately 1 per cent carbon. What is the cause of carbon forming and is 1 per cent a good figure to use?—L. C. B.

Any quantity of suspended carbon in a lubricating oil is undesirable, but if some limiting quantity is to be used as a guide for replacing the oil, it would seem that 1 per cent should insure a satisfactory condition. When carbon deposits form in a gas engine within a very short period, it is an indication of some abnormal condition.

The ordinary causes for these deposits are (1) incomplete combustion; (2) impure gas (oily); (3) unsuitable oil; (4) excess oil. Sooty, crumbly particles suggest incomplete combustion. Impure gas may be detected by simple tests, such as filtering through cotton or washing with gasoline; discoloration, indicating oil. A specific gravity determination of the gas will suggest the presence of any heavy hydrocarbons. Unsuitable oil includes the lubricating oils that have not been fully refined or the grade is not adapted to the conditions of use. Some compounded oils contain substances that oxidize when subjected to high temperatures, and this partial decomposition results in the formation of carbon deposits.

When there is surplus oil in the internal parts of the engine it will burn and char or produce a gum. Such deposits are the source of much damage because they collect solid materials, metal, sand, etc. Wear is followed by burning away of deposits on the piston rings and the ignited gases pass from one side of the piston to the other to ignite the gas on the other side where preignition takes place. Probably excessive oil causes more carbon deposits than any other one thing.

There are additional factors to investigate, especially improper timing of the valves and conditions responsible for preignition.

Petroleum Refining Is Considered Largest Chemical Industry

The petroleum refining industry is mentioned as the largest of the chemical industries. Will you explain why this is termed a chemical industry when it appears to be largely a matter of physics in the use of heat?—T. G. S.

Physics deals with mass, the entire molecule, whereas chemistry has to do with the breaking down of the molecule and also constructing the molecule. A chemical process usually does make use of physics.

The refining of petroleum requires considerable treatment with chemicals, but it is true that the larger part of the operation is conducted with heat. Here there is the separation of the fractions of the crude oil to obtain the primary products; the treatment of the lubricating stocks with solvents to produce the modern high-grade lubricating oils; the cracking of heavy oils to make gasoline and the recent advances in polymerization or the building up of a small molecule into a larger one.

A good discussion of the chemistry of the petroleum industry was presented by Prof. J. von Braun, Frankfort-on-Main. This extract has been made from the translation published in the Petroleum Times, March 24, 1934.

Changes of hydrocarbon material consist in the splitting of a molecule into two parts, one saturated and one unsaturated, and of a possible further change of its own of the unsaturated part, leading to the forming of large molecules either of the aromatic or nonaromatic series. Now that the nature of this process is recognized, it is possible to cause this thermal transformation to set in more or less intensively and to subject what is formed thereby to further controlled chemical change. Both have been done extensively.

(1) More than 5,000 patents have been applied for in respect to processes in which the primary unsaturated split parts may be more conserved (cracking in vapor phase) or polymerized (cracking in liquid phase). (2) Of the further chemical, artificially induced, alterations of the unsaturated products of cracking, that most known and employed consists of the adding of hydrogen. It operates as a rule without the isolation of individua, may be combined with cracking temporarily and mechanically, and leads in the end from high-molecular and high-boiling material to low-molecular and low-boiling. (3) It is also possible, however, to extract unsaturated individua—ethylene, propylene, butylene, etc.—from the products of splitting, and continue work on them. The olefins may be aromatized into benzol, they may be transformed into chlorides, alcohols, dioxide compounds, into substances capable of use as solvents or for other purposes; an example is the employment of ordinary glycol as a means of lowering the congealing point of water, for cooling water in power vehicles, or (after treatment with nitric acid) as a substitute for nitroglycerin.

What applies to hydrocarbons of liquid petroleum in respect of decomposition and further self-changes, is applicable also to the gas which accompanies the petroleum and consists mostly of methane. Methane may also be sundered by thermal agency, the primary phenomenon being the giving-off of hydrogen. If this is of sufficient extent, carbon is formed, and the production of carbon from natural gas methane has already assumed large proportions. If less hydrogen is given off, unsaturated residua like CH, CH_2, and CH_3—are formed at first, from which ethylene, acetylene and possibly their polymerizates may subsequently form.

Economics Involved in Design of Recovery Equipment

(Continued from Page 36)

To determine the instantaneous value of square feet B.t.u. per hour of heat transferred, differentiate (9) with respect to Q:

$$\frac{dS}{dQ} = \frac{W_c - W_h}{W_c - W_h} \times \frac{1}{U} \times \frac{1}{D\,W_h - Q} - \frac{1}{D\,W_c - Q} \quad (10)$$

rearranging

$$\frac{dQ}{dS} = U \times \frac{\left(D - \frac{Q}{W_c}\right)\left(D - \frac{Q}{W_h}\right)}{D} \quad (11)$$

Let $\frac{W_c}{W_h} = R$

$$\frac{dQ}{dS} = U \times \frac{\left(D - \frac{Q}{W_c}\right)\left(D - \frac{Q}{W_h} \times R\right)}{D} \quad (12)$$

Let a = the per cent cold approach, that is, the fraction of D through which the cold fluid rises in its passage through this exchanger. Then

$$a = \frac{Q}{W_c\,D} \text{ and } \frac{Q}{W_c} = aD \quad (13)$$

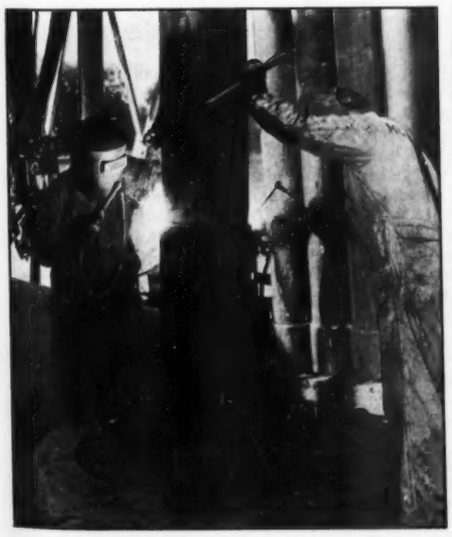
Substituting in (12)

$$\frac{dQ}{dS} = U \times D \times (1 - A)(1 - Ra) \quad (14)$$

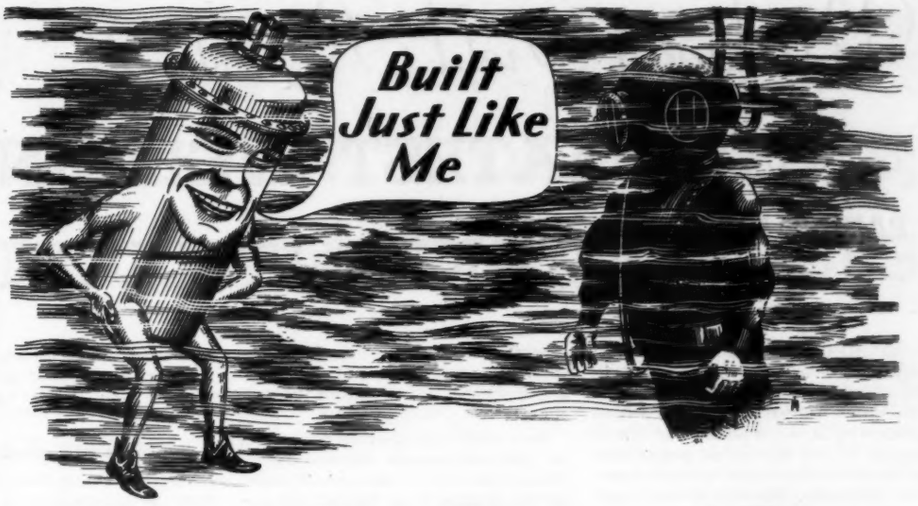
This equation gives us the instantaneous duty in B.t.u. per hour of any square foot of exchanger surface in terms of a constant and three variables.

Welding Casing

In recent years the welder has found an increasing outlet for his services in the oil business. Considering the money spent in the various branches of the oil business and the amount of work done by each, the producing department has



probably found less need for welding than any other. The recent introduction of casing which has an especially high yield point and designed to be welded promises to further the use of welding in this branch. The picture above was taken on the derrick floor of a major California test well.



Keeps Out Dust and Dirt

There is similarity between a diving suit and Protectomotor Air Filters Diving suits permit clean air to enter, but keep out water and foreign substances. And Protectomotor Filters allow clean air to enter air-using machines and tools, but keep out dust and grit.

Tests made by the University of California and other authorities have proven that not more than one out of every thousand particles of foreign matter in the air can ever get into pneumatic tools, Diesel engines, compressors, etc., equipped with

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Consequently wear on cylinders, pistons, bearings, valves and other moving parts is reduced 75 to 85 per cent.

Protectomotor Pipe Line Filter

Machines operate three to five times longer before overhauling is needed. Carbon deposits are cut 60 to 70 per cent. About 25 per cent less oil is used. And compressed air is not wasted by valves sticking and leaking due to dirt under the valves.

Installed on pipe lines, the Protectomotor permits only clean, dry compressed air to reach tools and work. It removes oil, rust, scale and sediment. Prevents foreign matter from clogging and wearing drills, riveters, etc. or ruining costly work.

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Michigan Field Report

By
PAUL A. ELLIOTT

LATEST WELL IN BEAVERTON MAKES IT LOOK IMPORTANT

MUSKEGON, Mich., Dec. 30.—The outstanding new oil development in Michigan during the quietest week of the state's busiest year was the completion by M. F. Whitehill, of Washington, Pa., of the second commercial oil producer discovered in the Beaverton Township, Gladwin County pool during the month.

Mr. Whitehill, who opened the Beaverton pool with a small Dundee well in 1934, last week brought in No. 1 William Bell, NW NE NW section 11-17n-2w, Beaverton Township, with a flow of 280 bbls. in the 24 hours.

Smith Petroleum Co. No. 1 Mae E. Fruchey, SW SE SW section 2, same township, which was reported good for 150 bbls. daily from the Dundee, was doubled in output to about 300 bbls. daily by acid treatment further increasing production and interest in the Beaverton pool.

A third active test in the field, M. F. Whitehill No. 1 Chris Welcher, SW NE SW section 2, same township, had not yet been completed but had reached the Traverse limestone.

As a result of successful wells in this field, located about 50 miles north of the Mount Pleasant area, it was announced three more tests will be started immediately with a possibility that double this number will be drilled during early weeks of 1936.

Montcalm County

Continuing of considerable interest to all Michigan operators as the possible discovery well of a new field was the Jetter Oil Co. and Lima Oil Corp. No. 1 C. N. Long, SW NW SE section 1-9n-6w, a Bushnell Township wildcat.

Brought in more than two weeks ago with an initial natural flow variously reported from 15 to 30 bbls., it was later estimated to be good for as high as 90 bbls. an hour, a figure which has since been refuted. Tubing has been run to the total depth of 3,110 feet to test the well on the pump before attempting to treat it with acid.

Anticipated success of the well resulted in a wild scramble for leases in the vicinity, about 8 miles southwest of the Crystal field and near the village of Vickeryville. The bulk of the close-in acreage, however, already was held by the Jetter and Lima companies, Pure Oil Co. and the McClanahan Oil Co. before the test was drilled in.

Although there were no new completions in the Crystal field, production of several wells previously drilled into the Dundee formation was increased by acid treatment.

The Sidney-Montcalm Oil Co. No. 1 Albert Madison, NW NW SW section 33-10n-7w, was reported to have encountered a show before it was shut down at about 3,200 feet. It is in a territory where the Old Dutch Oil & Gas Co., drilling subsidiary of the Old Dutch Refining Co., of Muskegon, has just obtained a permit to drill another test.

Four tests still nearing completion but not yet reported finished in the Dundee were J. W. Leonard, Jr., trustee No. 3 John Tow, NE NE SE section 3-10n-5w, Crystal Township, Montcalm County; John Vale's No. 1 George Barger, NW SW SE section 2, same township; Stork Oil Co. No. 3 George Dickenson, NW NW SE section 3, and Gordon Oil Co. No. 2 W. C. Taylor, SE NW SE section 35-11n-5w, Ferris Township, Montcalm County.

Wildcat Developments

Two south central Michigan wildcats, one in Clinton and the other in Genesee County, were drilling into the Dundee with no signs of success as yet.

Rowmor Corp. No. 1 George Gillespie, SW SW SW section 3-5n-5e, Argentine Township, was about 50 feet in the Dundee with no show of oil, gas or water, while the Rex Oil & Gas Co. was ready to test the Dundee in No. 1 J. E. Parker, NW NW NE section 32-7n-1w, Ovid Township, Clinton County. E. M. Neff and others were reported nearing the Dundee in their No. 1 Mabel L. Sippy, on the section lines between sections 26 and 27-16n-13w, Lilly Township, Newaygo County.

Midland County

The largest oil well completed in Midland County in two months was brought in in Jasper Township last week when Pure Oil Co. No. 1-A George H. Eldredge, C N half NE SW section 2-13n-2w, made about 600 bbls. a day after acid treatment in the Dundee. It showed 135 bbls. daily natural at a total depth of 3,431 feet.

Testing and acid treatment of half a dozen other tests in Midland County delayed their completions, also held up because of the Christmas holiday. They included: Pure No. 5-A Mattie Yost, C N half SE SW section 35-14n-2w, Greendale Township, Midland County, treating; Braden and Saunders No. 1 Kate Stapleton, SE NW NE section 13, also Greendale Township; Pure No. 4-B Laura E. Root, SE SW SE section 7-13n-1w, Porter Township, treating at 3,442 feet; Pure No. 7 Floyd Younglove, NW SE SW section 17, Porter, drilling at 3,400 feet, and Pure No. 6-A Iva E. Bond, SE NW NE section 18, Porter Township, plugging back several feet from a depth of 3,434 feet.

The Pine River Oil Co. No. 1 H. Sims, C NE SE section 4-13n-1e, Mount Haley Township wildcat well has been tubed at 2,462 feet preparatory to a shot of nitroglycerin about January 1. The Hemlock wildcat in Richland Township, Saginaw County, drilled by the King company, recently was increased to a daily output of more than 50 bbls. again from the Traverse.

Wildcat Completions

Five wildcat and semiwildcat tests were unsuccessful with all but one abandoned. That one will be deepened to test the Monroe formation.

Charles E. Weller No. 1 Milton P. Saxon, SW SW NW section 28-9n-3w, a Fulton Township, Gratiot County wildcat, was dry in the Dundee. A deep test in the Austin Township, Mecosta gas field, Taggart Brothers, Inc. No. 5 Robert Fish, C NW NW section 9-14n-9w, also failed to strike Dundee production and was being plugged immediately as a dry hole.

Goff & Rabuck No. 1 Frank and Clara Williams, NE SW NE section 14-12n-7w, Belvidere Township, Montcalm County, another deep test in search of oil beneath the shallow Michigan sands, was dry in the Dundee. Another Montcalm County wildcat, Frank J. Asam No. 1 Fred Pakes, NE NE NE section 7-10n-6w, in Evergreen Township, though failing to find commercial production, struck a showing of oil about 28 feet in the Dundee but continued until water was encountered. The showing is expected to attract a new interest in the possibilities in the vicinity.

In Clare County, the Sun Oil Co. No. 1 William E. Woodward, SW SE SE section 24-19n-3w, Hamilton Township, failed to strike production in the Dundee but will be carried down as a deep test at least to the Monroe formation before abandonment.

New Locations

The wildcat permits include: Old Dutch Oil & Gas Co. No. 1 Theodore Hansen, SE SW NE section 21-10n-7w, Sidney Township, Montcalm County; J. V. Wicklund's No. 1 Esther Rohrer, SW SW NW section 7-16n-1w, Edenville Township, Midland County; Great Lakes Oil Co. No. 1 Campbell, SE SE NE section 3-17n-2w, Beaverton Township, Gladwin County; Associated Petroleum Co. No. 1 Emma Retersdorf, SE SE SE section 8-7n-8w, Keene Township, Ionia County, and M. J. Ingold No. 1 Dr. J. Miller estate, NW SW NW section 23-26n-11w, Blair Township, Grand Traverse County.

Other permits call for the following tests, the first three in Montcalm County: United Producers Oil & Royalty Co. No. 2 Ernest and Martha Conner, NW SW NW section 26-11n-5w, Ferris Township; T. F. Caldwell, Inc. No. 7 Jesse Flint, SE NE SW section 35, same township, and Daily Crude Oil Co. No. 1 E. J. Fulford, SW NW SW section 36, Ferris Township; T. T. Hawksworth No. 1 State Department of Conservation, SE NW SW section 34-15n-3w, Denver Township, Isabella County, and United Drillers, Inc. No. 1 Augusta Schwaim, SE SE NE section 19-22n-2e, West Branch Township, Ogemaw County.

Four new locations have been staked in Midland County by the Pure Oil Co. including No. 2 D. Alspaugh, C S half SE NW section 2-13n-2w, Jasper Township; No. 1 J. P. Balch, C S half SW SE, same section; No. 6-B Mattie H. Yost, C N half SE SE section 34-14n-2w, Greendale Township, and No. 2 Charles Long, NW NW section 19-13n-1w, Porter Township.

Permit for a new Emerson Township, Gratiot County test also has been obtained by the Mountain Oil & Gas Co. to drill on the Walters farm, SW NW NE section 17.

Western Michigan

Jacob Bolema, of Muskegon, independent operator in the Muskegon oil field and in the Austin Township, Mecosta County gas field now serving Greater Muskegon with natural gas, announced plans for drilling a wildcat on a block of about 12,000 acres in Casnovia Township, Muskegon County, near the Kent County line.

The first test will be drilled on an 80-acre lease assigned to the Overland Petroleum Co., of Grand Rapids, in which Don L. Linsley, Russell Van Coevering and Fred W. Poel, all of Grand Rapids, are associated with Mr. Bolema. The tract has been checked by Hugh D. Crider, former Standard Oil Co. of Indiana and now Muskegon Oil Corp. geologist. Permit is to be taken out soon to start operations shortly after January 1 with hope of completing the first test by the middle of February, Mr. Bolema said.

A depth of more than 3,000 feet had been reached in the National Minerals Corp. No. 1 Jasper Lewis test, SE SE SW section 5-10n-11w, Solon Township, Kent County, which topped the Dundee at 2,853 feet. No oil, gas or water had been encountered.

Reed Oil Co., also contractors on the Lewis test, were cementing casing in James H. Barton No. 1 Albert H. Smith, SE NE NE section 29-10n-1w, Nelson Township, Kent County, at about 600 feet to shut off caving.

The Reed company was about ready to abandon its No. 3 J. J. McDermott, SW SW section 10-1n-16w, Muskegon Township and County, as an unsuccessful test drilled for gas in the shale just above the Traverse. It was being tested after a shot to determine possibilities of gas in the Coldwater shale between 570 and 580 feet probably will be abandoned soon.

The Dragoon Development Co. was preparing to ream for about 50 feet before resetting casing at 2,403 feet in the No. 1 W. K. Young, SW NW NW section 15-17-15w, Logan Township, Mason County test on the way to the Dundee.

West and North Texas

NOLAN COUNTY DEEP TESTS; CENTRAL TEXAS' NEW POOLS

By L. E. BREDBERG

FORT WORTH, Tex., Dec. 30.—Gulf Production Co.'s Ordovician test on the Waddell ranch, section 4, Block B-27, extreme western Crane County, is still cleaning out down to 5,812 feet on top of bridge which was formed after well was shot with nitroglycerin last week at 6,186-6,300 feet. Indications are that the oil has been increasing in the hole since it has been slopping over the top of the hole during the agitation of the tools. It is 1 foot in the Ellenberger, but the Simpson section of the middle Ordovician was the section shot and from which the oil is coming.

The test is being closely watched during the cleaning out process, everyone expecting it to make the first commercial Ordovician producer in the West Texas district outside of the Big Lake field where Continental Oil Co. and Big Lake Oil Co. are producing a number of wells from the Ordovician found in that field below 8,000 feet. The Ordovician in the Waddell test is higher than found anywhere else in the district to date, which makes its chances look good for making a producer. And it is considered low on the structure in the area, acreage to the east believed to be located more favorable on the structure.

Nolan Deep Test

B. David Thomas of Denton, Tex., proposes to drill a 6,000-foot test 8 miles northeast of Blackwell, in section 113, Block 1-A, H.&T.C. Survey in Nolan County. This will be the second deep test started in the county, Harris and others having a test shut down at 200 feet in section 89, Block 24, T.&P. Survey, but scheduled to go to around 6,000 feet. Fisher County, to the north, is also scheduled to receive a deep test. The Forest Development Corp. of Pittsburgh, Pa., has erected derrick and is preparing to drill in section 108, Block 2, H.& T.C. Survey, on the A. M. Dry lands, a short distance southwest of Rotan. However, this test is to go only to 4,200 feet. The company has a block of between 25,000 and 30,000 acres in the area surrounding the location.

Kimble Ordovician Test

Forest Development Corp. No. 1 Stapp, in section 682, Block N, G.H.& S.A. Survey, 18 miles southeast of Junction in Kimble County, was believed to have passed through the Ordovician from which it was expected to pick up production, and into the Cambrian. It topped the Ellenberger, lower section of the Ordovician, at 1,608 feet, with an elevation of 1,975 feet. The Simpson section was missing in the test. Contract depth is 4,000 feet and striking the Cambrian is something new for tests in the West Texas district, only having been found before in the central mineral region, which runs to the east of this test from north to south.

Jeff Davis Showing

Reports from the field carried news that 8 feet of saturated sand had been cored in C. M. Joiner and others No. 1 Jones & Coffield, an extreme wildcat test located in Section 8, Block 3, H.&T.C. Survey, Jeff Davis County. Core was taken at 2,202-10 feet, the test being shut down at the latter depth for orders after taking the core. There is no production in Jeff Davis County, and but few tests have ever been sunk in the area. Mr. Joiner will be remembered as the operator who drilled the discovery well in the East Texas field.

Lueders Showing

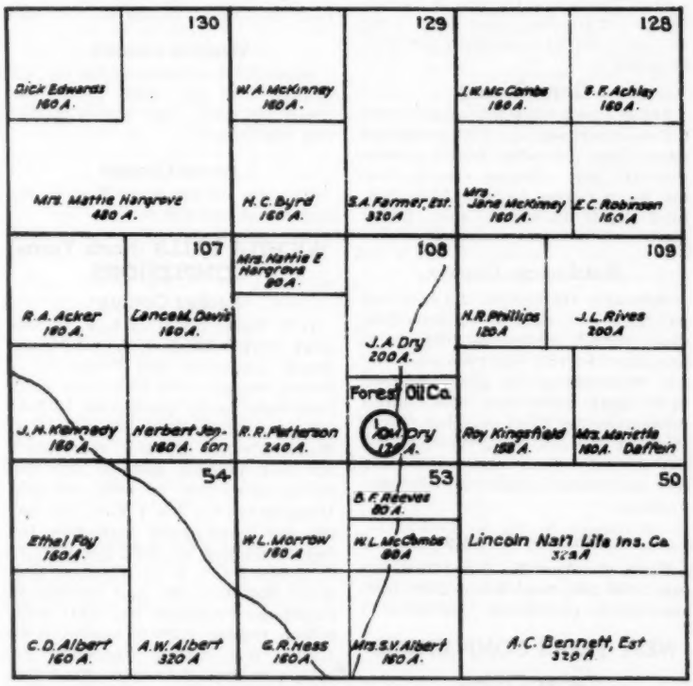
Peckham and Danciger Oil & Refining Co. No. 1 City of Stamford, outpost test about three-quarters of a mile northeast of production in the Lueders pool in eastern Jones County, is appearing as a producer from the Hope sand logged at 1,922 feet. The test logged a good showing in the Cook sand about 10 days ago, but failed to make a producer from that higher formation, 1,811 feet. It then started deepening in quest of production from the regular pay in the area, the King sand, found around 2,000 feet and below. But the hole filled with oil from the Hope sand and the test may be completed in that formation. It is located in section 207, B.B.B.&C. Survey, 3 miles northwest of Lueders.

Seven wells were completed in Jones County this week, one of the busiest counties in the West Texas district. Two of the wells, Brown Eagle Oil Co. No. 1 Fields, a short distance east of the Hawley field, was abandoned at 2,270 feet and Conway and Gholson No. 1 Cauthen, a mile southeast of the Jennings pool, was given up as a "duster" at 2,270 feet. The five producers were located in the Hawley, Sandy Ridge and Lueders pools.

The Magnolia Pipe Line Co. was reported to be checking leases and production in eastern Jones County with the idea in mind of running a connecting line into the pools on that side of the county, where high gravity oil is produced. Local refineries are taking the oil now, but the production surpasses the needs of the plants and a pipe line outlet is greatly needed.

Second Well for Rotan

Tide Water Oil Co. and Merry Brothers and Perini No. 2 Mary Howard, a short distance west of their discovery well in this pool, which is located 6 miles northeast of Rotan in Fisher County, is now drilling plugs preparatory to testing and completing for the second well in the pool. It is located in section 180, Block 2, H.&T.C. Survey. The oil pay was topped at 3,645 feet with bottom of the hole only 2 feet in the formation. Six and five-eighths inch casing was set at 3,643 feet.


130
129
128
Dick Edwards 160 A.
W. A. McKinney 160 A.
J. W. McCombs 160 A.
S. F. Achley 160 A.
Mrs. Mattie Hargrove 480 A.
H. C. Byrd 160 A.
S. A. Farmer, Est. 320 A
Mrs. Jane McKinney 160 A.
E. C. Robinson 160 A
107
108
109
Mrs. Mattie E Hargrove 80 A.
R. A. Acker 160 A.
Lancell Davis 160 A.
J. A. Dry 200 A.
H. R. Phillips 120 A
J. L. Rives 200 A
Forest Oil Co.
J. H. Kennedy 160 A.
Herbert Jap- 160 A. Son
R. R. Patterson 240 A.
Roy Kingsfield 158 A.
Mrs. Mariette 160 A. Daffron
54
53
50
B. F. Reeves 80 A.
Ethel Foy 160 A.
W. L. Morrow 160 A
W. L. McCombs 80 A
Lincoln Natl Life Ins. Co.
C. D. Albert 160 A.
A. W. Albert 320 A
G. R. Hess 160 A.
Mrs. S. V. Albert 160 A.
A. C. Bennett, Est 320 A

Forest Oil Co. projected deep test (6,000 feet), in section 108, Block 2, T.C. Ry. Survey, in Fisher County, West Texas

(Courtesy of Zingery Map Co., Fort Worth, Tex.)

Two Proposed Wildcats

Six months ago Hix and others made location for a test on the Holt lands in League 319, Garza County School Lands Survey, but the test was not drilled. The location is surrounded by a 12,400-acre block assembled by Mr. Hix, who, it is said, has turned it over to Benedum and Trees who will probably drill a 5,000-foot test, according to contract, which will make the second test drilling in Martin County.

Lewis & Sloan are scheduled to drill a wildcat in the extreme northwest corner of Andrews County and tentative location has been staked in section 15, Block A-29, P.S.L. Survey, which is about 6½ miles west of a dry hole drilled several months ago by the Crafton Oil Co. of Fort Worth. The tentative location falls on acreage farmed out by Humble Oil & Refining Co. from the large block it holds in the area.

T. D. Humphrey and others are to sink a 2,250-foot test on a 600-acre block recently purchased south of Truby on the Brazos River in Jones County. The block falls in the A. M. R. Longoria Survey. The same operators will also drill a 2,150-foot test, to start within 120 days, on the Mrs. E. Duke lands in the G. Martinez Survey, in the same county.

Fisher County Sale

The Condor Petroleum Co. of Abilene has sold a 170-acre lease in the W half section 192, B.B.B.&C. Survey, Fisher County, including three producing wells which have a daily potential of 200 bbls. Dean Brothers and others were the purchasers.

Another Garza Test

M. L. Richards, who recently completed a small producer just south of the town of Post in Garza County, has moved in a machine for his No. 2 on the Post estate lands in section 6, Block 5, K. Aycock Survey, the second small producing area in the county.

Locations and Completions

Locations and completions were abreast this week with 18 of each being listed for the district. Pecos County received the bulk of the new tests, an even half dozen being listed for the county, four of which fell in the small shallow Masterson pool northwest of Girvin. Jones County showed continued popularity with

three locations falling within its borders.

Ranger and Wichita Falls

A leasing play is now taking place in the extreme northwest corner of Grayson in the Delaware Bend area, with Oklahoma parties buying protection on a deep drilling play through that area. J. Slone, one of the purchasers, has just closed a deal for absolutely wildcat acreage at $5 per acre. Oklahoma individuals and companies are giving the area more attention than Texas companies and operators, although the latter have been giving it increased attention since Olson Drilling Co., Gardner and others No. 1 Southwestern Life Insurance Co. started drilling on deep test 3 miles northwest of Denison. This test is now held up by twisted-off drill stem at total depth of 4,670 feet. The test has been drawing more attention from week to week as its drilling progressed.

Denton Wildcat

J. Baker and others of Waxahachie have assembled a 4,500-acre block centering in the lands of heirs of W. A. Thompson Survey, Patent 1,520, with the idea of drilling a 3,500-foot or Ellenberger lime test to start by January 15. A former test in this area, located in Lot 9, was abandoned several years ago at a total depth of 2,023 feet.

Deep Test in Young

Lawson Petroleum Co. has purchased 15 acres from the Rathke Oil Co. in the J. C. C. Graham Survey in the area in which the latter company recently opened a deep producing pool, and is to put a 4,500-foot cable tool test down on the lease, same to be started within 120 days. The pay in this area is found around 3,700 feet.

Palo Pinto Deep Test

J. B. Cowan and others of Mineral Wells will drill a 4,000-foot cable tool test to spud in within 90 days after the block is completed which is being assembled in an area centering in the south half of the L. F. Margaret Survey in Palo Pinto County.

Cooke County Pool

Seitz, Comegys & Seitz have opened another shallow pool for Cooke County by the completion of their No. 1-A A. W. Trew, which is located in the southwest corner of the north half of the S. H. Billingsley Survey. It logged an oil sand from 1,095-1,103 feet and pumped 324 bbls. in 24 hours on an initial test. Location is 2 miles southeast of the Huggins and 3 miles northwest of the Andress pool.

Eastland Discovery

R. T. Hoff of Ranger has opened a shallow producing pool three-quarters of a mile southeast of other shallow production in Eastland County. The well is located on the J. W. White lands in Lot 42, McLennan County School Leagues 3, 7, 4. Oil sand was logged at 1,450-55 feet, the latter being total depth. Dry holes are located in all directions from the well, but the owner has 450 acres surrounding the discovery which may prove productive in whole.

Thalia Pool

The Texas Co. has completed another high gravity oil well in its No. 10 Les. K. Johnson in the Thalia pool on the extreme west edge of Foard County. The well made 365 bbls. initial flow in 24 hours after acidizing with 1,000 gallons under a 70-bbl. oil load with 800 pounds pressure. Main pay in the well was topped at 3,636 feet, bottom of the hole being 6 feet in the pay. It produced 400,000 feet of gas with the oil.

Locations and Completions

There were 34 locations staked in the Wichita Falls district this week with the same number completed, several old producers having been deepened. Nineteen of the tests completed were oil wells, the others proving dry.

Production in the Wichita Falls district averaged over 62,870 bbls. per day during the week.

Panhandle District

There were 17 locations staked in the Panhandle district during the week, with but a small number of tests being completed. Only seven wells were reported put on production this week with one dry hole appearing on the completion list.

PANHANDLE COMPLETIONS

Carson County

Gulf Production Co. No. 11 Cooper, top pay 2,971 feet, total depth 3,058 feet, shot, initial production 578 bbls., pumping.

Gray County

Dixon Creek Oil & Refining Co. No. 6 Casselbury, top pay 3,213 feet, total depth 3,281 feet, shot, initial production 343 bbls. Empire Gas & Fuel Co. No. 9 Culler, top pay 3,190 feet, total depth 3,308 feet, shot, initial production 388 bbls., pumping.

Hutchinson County

Barnsdall Oil Co. No. 2 Lewis, top pay 2,932 feet, total depth 3,008 feet, shot, initial production 691 bbls., pumping. Stekoll Oil Producers No. 4-E Whittenburg, top pay 2,821 feet, total depth 2,869 feet, shot, initial production 288 bbls., pumping. Texas Plains & Turman No. 2 Whittenburg, top pay 2,784 feet, total depth 2,831 feet, shot, initial production 550 bbls., pumping.

Wheeler County

Smith Brothers No. 3-A Sitter, top pay 2,458 feet, total depth 2,530 feet, shot, initial production 1,197 bbls.

WEST TEXAS COMPLETIONS

Fisher County

Mid-Continent Petroleum Co. No. 5 Pardue, top pay 3,102 feet, total depth 3,108 feet, acidized, initial production 6½ bbls. per hour, pumping. E. L. Smith No. 5 fee, top pay 3,100 feet, total depth 3,104 feet, acidized, initial production 5½ bbls. per hour, pumping.

Howard County

Sinclair Prairie Oil Co. No. 24 Dodge, top pay 2,470 feet, total depth 2,784 feet, shot, initial production 918 bbls. Southern Oil Co. No. 3 Denman, total depth 2,783 feet, shot, initial production 914 bbls., pumping.

Jones County

Condor Petroleum Co. No. 7 Sayles, top pay 1,901 feet, total depth 1,906 feet, initial production 69 bbls., pumping. Conway & Gholson No. 1 Cauthen, dry and abandoned 2,155 feet. Bridwell & Fikes No. 4 Jennings, top pay 2,030 feet, total depth 2,040 feet, initial production 156 bbls. Condor Petroleum Co. No. 4 Holt, top pay 1,943 feet, total depth 1,952 feet, initial production 64 bbls. R. L. Crawford and others No. 2 Waltzer, top pay 1,933 feet, total depth 1,951 feet, initial production 25 bbls. oil and 6 bbls. water. Brown Eagle Oil Co. No. 1 Fields, dry and abandoned 2,270 feet. Wright & Ewing No. 1 Farrar, top pay 1,962 feet, total depth 1,971 feet, initial production 132 bbls., pumping.

Mitchell County

Magnolia Petroleum Co. No. 1 Foster, top pay 2,435 feet, total depth 2,840 feet, shot, initial production 52 bbls. oil and 45 bbls. water, pumping.

Upton County

Ellis No. 3 Robbins, top pay 2,060 feet, total depth 2,080 feet, acidized, initial production 790 bbls. Amerada Petroleum Co. No. 3 Lane, top pay 2,199 feet, total depth 2,203 feet, acidized, initial production 338 bbls., pumping.

Ward County

Westbrook Oil Corp. No. 4 Shell-Monroe, top pay 2,464 feet, total depth 2,580 feet, shot, initial production 595 bbls. Ice & Luce No. 2 Baker, top pay 2,461 feet, total depth 2,481 feet, shot, initial production 202 bbls.

Winkler County

Humble Oil & Refining Co. No. 4-B Walton, top pay 2,920 feet, total depth 3,050 feet, shot, initial production 179 bbls.

Pecos County

Corvette Oil Co. No. 9 Tippett, dry and abandoned 623 feet.

WICHITA FALLS (North Texas) COMPLETIONS

Archer County

L. T. Burns No. 1-AA L. F. Wilson, total depth 1,532 feet, dry and abandoned. Eddleman and Payne No. 6 Brown, top pay 1,597 feet, total depth 1,602 feet, initial production 15 bbls. per day. Harry Hines No. 2-A H. L. Ward, top pay 920 feet, total depth 937 feet, plugged back to 929 feet, initial production 30 bbls. per day. Huggins Oil Co. No. 7 Ford, top pay 995 feet, total depth 1,003 feet, initial production 20 bbls. per day. C. E. Jones No. 3 J. C. Thomas, total depth 650 feet, dry and abandoned. Petroleum Producers No. 10-D Richardson, top pay 1,236 feet, total depth 1,261½ feet, initial production 211 bbls. per day. Petroleum Producers and others No. 1 L. F. Wilson, total depth 3,652 feet, dry and abandoned. Shappell Oil Co. No. 1 G. R. Parkey, total depth 1,738 feet, dry and abandoned. Solo Oil Co. No. 1-B G. B. Hamilton, total depth 1,302 feet, dry and abandoned.

Baylor County

Caudill and Yadon No. 1 W. B. Mills, total depth 1,501 feet, dry and abandoned. Ray and Staniforth No. 38-C Portwood, top pay 1,377 feet, total depth 1,387 feet, initial production 504 bbls. per day; No. 39-C Portwood, top pay 1,360 feet, total depth 1,367 feet, initial production 538 bbls. per day.

Clay County

Texas Co. No. 3 Hansard, top pay 1,080 feet, total depth 1,089 feet, initial production 96 bbls. per day.

Cooke County

Mudge Oil Co. No. 2-A J. R. Johnson, top pay 1,122 feet, total depth 1,150 feet, initial production 74 bbls. per day. Murry Investment Co. No. 2 L. Rhomer, top pay 950 feet, total depth 952 feet, initial production 15 bbls. per day. A. D. Robinson and others No. 5-B J. H. Otto, top pay 806 feet, total depth 825 feet, initial production 20 bbls. per day. Seitz-Comegys and Seitz No. 1-A Trew, top pay 1,095 feet, total depth 1,103 feet, initial production 300 bbls. per day. Vindicator Petroleum Corp. No. 2 Walter Scheid, top pay 785 feet, total depth 789 feet, initial production 25 bbls. per day.

Foard County

Texas Co. No. 10 Les. K. Johnson and others, top pay 3,636 feet, total depth 3,642 feet, initial production 365 bbls. oil and 400,000 feet of gas per day.

Montague County

Bridwell Oil Co. No. 1-D F. H. Begley, top pay 1,753 feet, total depth 1,764 feet, initial production 60 bbls. per day. Texas Co. No. 6 W. W. Jones, top pay 1,788 feet, total depth 1,793 feet, initial production 59 bbls. oil and 10 bbls. water per day.

Wichita County

Magnolia Petroleum Co. No. 6 Burnett (old well deepened—old total depth 1,590 feet), total depth 1,824 feet, dry and abandoned. Tom Medders No. 1 Humphreys and Bullington, total depth 1,503 feet, dry and abandoned. Peckham and others No. 3-B Waggoner estate, total depth 965 feet, dry and abandoned. Rathke Oil Co. No. 7 S. B. Burnett, top pay 1,593 feet, total depth 1,607½ feet, initial production 10 bbls. per day. Texas Co. No. 419 Waggoner estate, top pay 1,085 feet, total depth 1,102 feet, initial production 53 bbls. per day.

Wilbarger County

Phillips Petroleum Co. No. 5-Y Waggoner estate (old well deepened—old total depth 1,400 feet), top pay 2,571 feet, total depth 2,583 feet, initial production 77 bbls. oil and 2 bbls. water per day; No. 4-FF Waggoner estate, top pay 2,526 feet, total depth 2,529 feet, initial production 109 bbls. oil and 10 bbls. water per day. Staley and Wynn No. 1-AA Waggoner estate, total depth 2,585 feet, dry and abandoned; No. 5-S Waggoner estate (old well deepened—old total depth 1,880 feet), new total depth 2,580 feet, noncommercial producer in lime pay, plugged back to 1,880 feet and recompleted for initial production of 10 bbls. per day.

Young County

Alexander-Page and McDaniel No. 2 W. B. Howard, top pay 915 feet, total depth 927 feet, initial production 15 bbls. per day. Continental and Hines No. 1 N. Wilbur, total depth 1,446 feet, dry and abandoned. Horwitz and Oldham No. 1 Cara J. Thompson, total depth 1,000 feet, dry and abandoned. Humble Oil & Refining Co. No. 16 Mercer, total depth 1,077 feet, dry and abandoned. J. H. Kliner No. 8 J. M. Kirkland, top pay 690 feet, total depth 702 feet, initial production 60 bbls. per day. I. J. Watson No. 1 B. A. Larrimore, total depth 628 feet, dry and abandoned. R. J. Watson No. 1 Watson, total depth 600 feet, dry and abandoned.

E. L. DeGolyer, consulting geologist of New York City, and past president of the American Association of Petroleum Geologists, is a visitor in Tulsa.

East and East Central Texas

By
L. E. BREDBERG

INTERSTATE RODESSA FIELD DISTURBING TO EAST TEXAS

DALLAS, Tex., Dec. 30.—On September 27 of this year the Texas Railroad Commission held a proration hearing on a "field" not yet an oil field in East Texas. It was the probable Cass County extension of the Rodessa field. Now the extension of Rodessa into Cass County, Texas, has been proven by R. W. Norton No. 1 Haywood, in the Priscilla Evans Survey, opening up another producing area in Texas and one that is sure to give plenty of trouble to the Texas authorities whose job is to conserve or prorate the oil and gas fields within the state.

Wells on the Louisiana side of the line were given a 500-bbl. daily allowable in December, but the wells on the Texas side cannot be given such an allowable in this area or operators in the East Texas field, who now only produce 2.7 per cent of the hourly well potential, will ask for a larger per well allowable in that field, and so will other operators in other fields over the state. And if operators in the Rodessa extension area in Texas are not given an allowable to match the wells across the line in Louisiana then they too will have a just cause to complain, for they will not want to stand by and see offset wells on the Louisiana side of the line drain their properties in Texas. The extension truly sets up a new situation in the industry.

Temporary Production Plan

The Humble Pipe Line Co. is extending a line from the Louisiana side to the new well in Cass County, and the Texas Railroad Commission has wired the pipe line company and Humble Oil & Refining Co., the oil purchasing company, as follows: "You are hereby authorized to run whatever oil is produced from the R. W. Norton No. 1 Haywood in Priscilla Evans Survey, Cass County, Texas, and such oil will be charged back to the well after the allowable has been fixed at a hearing of the Railroad Commission." This wire follows tender application for 50,000 bbls. of crude oil from the well by Mr. Norton.

If the American Liberty Oil Co. No. 1 Rodgers, about 2½ miles inside the Texas line and about 2 miles west of the above mentioned Haywood extension makes a producer, it will complicate matters on the Texas side still greater for it will prove a pool of considerable area in Cass County, and add to proration worries of the Railroad Commission.

Louisiana authorities are to meet with members of the Texas Railroad Commission and landowners at once to try to work out a plan to prevent inequity in producing wells on each side of the state line, and seek a uniform basis for prorating the area. It will not be an easy matter to adjudicate and gives the industry something else to worry about now that overproduction in East Texas is no longer a low price excuse. More pipe lines, loading racks and other outlets are proposed for the Rodessa field in Louisiana and if all are constructed, and the demand for the oil is great, it will be difficult for production to be held down on the Louisiana side of the line, which will add to the complexity of the situation.

Deep Drilling Will Help

These wells are producing from a pay horizon below 6,000 feet consequently it will take much longer to drill wells there than in the East Texas field, which is producing from the Woodbine around 3,600 feet, and the daily potential of the new area will not add up as rapidly as it has in the older area. This will be one advantage in prorating the new area. Then too, there will be fewer operators producing in the new field near the Louisiana line, with fewer purchasers to take the oil, which will be another advantage in controlling it.

The outpost test of the American Liberty Oil Co. will be closely watched this week when it is tested, for upon it may hinge the solution of the control situation. If it proves a dry hole defining the western limits of the field then there will be fewer producing wells and leases to be developed on the Texas side. If it proves a producer and a 2-mile extension it will build up to the worries of Railroad Commission.

Boggy Creek Test

The Boggy Creek field, on the northeast line of Anderson County, discovered in 1927 by M. A. Davey of Palestine, Texas, is to receive its first test in years. Comer Todd has staked location for an inside test on the W. T. Todd lands in the A. B. Patton Survey. There are some 20 wells in the pool, which is but a small one.

Right of Way Suit

The U. S. Supreme Court has refused to rule on whether the Texas & Pacific Railway Co. had only a right of way over Texas land and if the state owned such lands, the Texas Supreme Court holding in favor of the state of Texas in regard to the suit which involves lands in West Texas and the railway company's right of way through the Gregg County part of the East Texas field. Chief Justice Hughes stated that "no substantial federal question was involved" and therefore refused to rule on the case.

Long Lake Field

Tide Water Oil Co. and Texas Seaboard Oil Co. completed another producer in the Long Lake field in southwest Anderson County this week, making an extension of about 4,000 feet southwest in the Tucker area, which is the northern extension of the field. The joint companies' No. 1 Frank Evans and others, southwest of No. 3 Shaw & Cern in the John Adams Survey, came in making 23 bbls. per hour through a three-sixteenths inch choke, with high gas pressure.

Standard Oil Co. of Kansas No. 1 Robinson and Hombs, in the same survey, about 1 mile due east, has been completed as a gasser after topping sand at 5,345 feet, drilling to 5,347 feet and plugging back to shut water and part of gas formation. Tide Water Oil Co. and Texas Seaboard Oil Co. are now completing one other well in this area and have No. 4 Shaw and Cern drilling. This extension has been producing the majority of the oil wells in the field, wells drilled to the south around the discovery proving principally gas and distillate wells, making the field appear at first as merely a gas field.

The close of the year finds many dry holes having been drilled in the East Texas district during the past 12 months, with no fields of major importance uncovered, but proving the Trinity sand productive in one spot in East Central Texas, the Cayuga field in northwest Anderson County. Tide Water Oil Co. and Texas Seaboard Oil Co. No. 21-A Wills, in the S. Edmondson Survey in that field, is now producing gas and distillate from the Glen Rose sand, a member of the Trinity. Other Trinity sand producers will be drilled in the field when the joint owners feel the need for the deeper production, and other areas are expected to be explored for this pay zone in the district during 1936, many blocks having been taken for that purpose.

Wildcats

L. O. McMillan No. 1 Lang Estate, located in the Robert Linnard Survey, 1½ miles southeast of the Rusk pool discovery in Cherokee County, and one of the interesting tests in the district, is fishing for 1,900 feet of drill pipe at 4,410 feet in Austin chalk, total depth.

Haley & Young, of Teague, have made location 600 feet north of their No. 1 Cochrum & Knight in the D. Bullock Survey, Limestone County, for a second test in this area, where their first test was a failure at total depth of 4,900 feet. However, it was plugged back to 4,772 feet to test 24 feet of sand with a 6-foot shale break, showing oil and gas above the break, with water in bottom. This showing led to the staking of the second location, which is on the Jack Eppes farm.

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GULF COAST WATER SHIPMENTS—NOVEMBER, 1935

Company and terminal—	Crude		Refined		
	Coastwise	Export	Coastwise	Export	Total
Atlantic Pipe Line Co.:					
Atreco	1,663,075.20	.....	12,944.47	.....	1,676,019.67
Texas City	293,034.82	.....	8,168.16	.....	301,202.98
Harbor Island	510,532.87	.....	.....	.....	510,532.87
Gulf Refining Co.:					
Port Arthur	302,713.14	.....	2,957,941.79	336,865.54	3,597,520.47
Humble Oil & Refining Co.:					
Baytown	429,435.84	.....	2,632,837.83	526,363.12	3,588,636.79
Harbor Island	1,686,586.33	137,379.70	.....	.....	1,823,966.03
Texas City	756,753.53	.....	.....	.....	756,753.53
Ingleside	32,667.13	.....	.....	.....	32,667.13
Magnolia Petroleum Co.:					
Beaumont	549,814.12	.....	2,828,204.76	.....	3,378,018.88
Pure Oil Co.:					
Smiths Bluff	394,836.00	.....	736,474.00	.....	1,131,310.00
Shell Petroleum Corp.:					
Houston	100,720.00	90,648.00	1,282,773.00	80,896.00	1,555,037.00
Norco	.....	.....	313,373.00	.....	313,373.00
Standard Oil Co. of La.:					
Baton Rouge	148,186.00	.....	1,452,415.00	175,818.00	1,776,419.00
Sun Pipe Line Co.:					
Sabine Pass & Sun	1,934,742.83	.....	.....	.....	1,934,742.83
The Texas Co.:					
Port Arthur	1,154,496.00	515,257.00	1,977,541.00	845,700.00	4,492,994.00
Miscellaneous:					
Houston	1,101,892.76	638,937.50	1,561,792.97	628,180.68	3,930,803.91
Total November	11,059,486.57	1,382,222.20	15,764,465.98	2,593,823.34	30,799,998.09
Total October	11,348,805.94	1,816,940.21	15,232,753.22	2,262,207.19	30,660,706.56
Difference	289,319.37	434,718.01	531,712.76	331,616.15	139,291.53

Decision for Parkersburg

The United States Circuit Court of Appeals at Denver, Colo., on December 20, in case No. 1,306, Richard W. Sage and Harry R. Boughner versus Parkersburg Rig & Reel Co., affirmed the decree of the lower court, holding the Sage & Boughner chain driven sand reel patent void for want of novelty. The conclusions of law found by Paul J. Wall, as special master, that there was no infringement and that the patent in suit is invalid, were concurred with by Judge Hopkins.

Here is a tool that is particularly useful in the oil field, for it possesses rugged strength and tremendous power to move heavy loads—up to 6 tons—yet it can be carried easily from job to job.

To *PULL* and *LIFT* where space is limited!

PUL-LIFT

The Tool of 1,000 Uses

. . . it operates in either horizontal or vertical position and its uses are virtually unlimited. Made by YALE, it possesses the fine characteristics of all YALE Products.

Capacities: 3/4, 1-1/2, 3 and 6 Tons

-YALE-

THE YALE & TOWNE MFG. CO.

Dept. O.G., PHILADELPHIA DIVISION, Philadelphia, Pa.

Makers of Yale Hand and Electric Chain Hoists, Trolleys, Electric Trucks, Hand Lift Trucks and Skid Platforms.

Adequate Pressure or

NONE

C-F Back-Pressure or Check-Pressure Regulator

Where a well needs to be protected from depletion, or pressure in one part of a system needs to be kept higher than in other parts, or for any reason it is desirable to check flow altogether when pressure falls to a set minimum, the C-F Back-Pressure or Check-Pressure Regulator will serve the purpose unfailingly. Pressure below the desired minimum will not be sufficient to hold the valve open against the weights imposed; therefore the valve closes and flow definitely ceases.

Write for Bulletin 2099 giving complete description, also catalog of C-F Regulators for all pressure-control uses, known as the best for fifty years.

THE CHAPLIN-FULTON MFG. CO.

28-40 Penn Avenue Pittsburgh, Pa.

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WESTCOTT & GREIS, Inc. *Sales and Service* Dallas—Tulsa

HIMELBLAU, BYFIELD & CO. 36 S. Throop St., Chicago, Ill.

Or any Jobber

Summary of California Field Operations for November

Total stocks of crude and all products in Pacific Coast territory increased during the month 3,363,175 bbls. The total stocks at the end of the month were 126,250,063 bbls. The total stock increase for 1935, up to November 30, was 31,746 bbls.

CRUDE PETROLEUM PRODUCTION

(Figures of Production and Stocks are in barrels of 42 gallons)

	Total production	Daily average		
	November	Nov., 1935	Oct., 1935	Nov., 1934
Group No. 1:				
Belridge—North	306,119	10,204	9,799	5,337
Belridge—South	74,301	2,477	2,436	1,913
Coalinga	624,531	20,818	20,929	18,515
Edison	160,469	5,349	4,226	938
Elk Hills	292,526	9,751	9,753	7,889
Fruitvale	199,278	6,643	6,303	3,744
Kern River	430,942	14,365	14,509	10,548
Kettleman Middle Dome	.....	.....	.....	625
Kettleman North Dome	3,318,664	110,623	100,134	58,403
Lost Hills	144,552	4,818	4,879	4,561
McKittrick	127,475	4,249	4,180	3,013
Midway-Sunset	1,796,003	59,867	58,867	51,946
Mountain View	1,157,504	38,583	38,002	11,676
Mount Poso	535,144	17,838	17,772	10,235
Round Mountain	237,915	7,931	8,095	4,969
Wheeler Ridge	11,792	393	410	419
Group No. 2:				
Capitan	60,611	2,020	1,912	616
Elwood	481,940	16,065	13,962	9,920
Rincon	62,462	2,082	2,191	1,528
San Miguelito	30,023	1,001	930	618
Santa Barbara	66,969	2,232	2,385	4,329
Santa Maria	117,641	3,921	4,353	4,939
Summerland	755	25	33	44
Ventura Avenue	1,184,794	39,493	35,089	24,372
Ventura-Newhall	130,328	4,344	4,140	3,970
Watsonville	1,800	60	60	60
Group No. 3:				
Brea-Olinda	307,052	10,235	9,740	10,652
Coyote—East	84,471	2,816	2,562	2,636
Coyote—West	302,129	10,071	10,350	8,851
Dominguez	727,808	24,260	21,167	18,217
Huntington Beach	1,300,311	43,344	43,235	39,239
Inglewood	431,621	14,387	14,093	9,525
Lawndale	9,208	307	283	127
Long Beach	2,391,325	79,711	77,638	60,790
Los Angeles-Salt Lake	24,455	815	762	809
Montebello	210,945	7,032	6,418	5,734
Playa Del Rey	502,680	16,756	16,827	9,476
Potrero	9,758	325	314	430
Richfield	230,119	7,671	7,484	8,145
Rosecrans	80,799	2,693	2,536	2,973
Santa Fe Springs	1,628,794	54,293	54,787	38,860
Seal Beach	262,157	8,739	8,642	8,259
Torrance	203,486	6,783	6,861	6,874
Whittier	32,598	1,087	1,027	1,122
Total November	20,294,268	676,476	650,065	477,846
Total October	20,152,039	650,065		
Increase	142,229	26,411		

OIL FIELD DEVELOPMENT

	New rigs up	Active drilling	Producers completed	Daily initial output	Active producing	Abandoned wells: Drillers	Abandoned wells: Producers
Group No. 1:							
Belridge—North	3	3	2	6,540	30	..	..
Belridge—South	..	...	...	.....	169	..	..
Coalinga	2	4	1	30	982	1	1
Edison	7	7	6	1,378	52	3	..
Elk Hills	..	...	...	.....	168	..	..
Fruitvale	4	4	2	255	80	..	..
Kern River	7	7	5	808	1,539	..	..
Kettleman Middle Dome	..	2	...	.....	.....	..	..
Kettleman North Dome	9	25	2	3,740	118	..	..
Lost Hills	..	1	...	.....	321	1	..
McKittrick	..	2	...	.....	208	..	..
Midway-Sunset	6	8	5	704	2,561	..	3
Mountain View	17	19	8	11,803	103	..	..
Mount Poso	5	9	8	2,905	223	3	..
Round Mountain	1	...	...	.....	72	..	..
Wheeler Ridge	1	1	...	.....	34	..	..
Group No. 2:							
Capitan	2	1	...	.....	14	1	..
Elwood	..	2	...	.....	59	..	..
Rincon	..	2	...	.....	30	..	..
San Miguelito	..	1	...	.....	5	..	1
Santa Barbara	1	1	...	.....	66	1	
Santa Maria	..	2	...	.....	211	..	1
Summerland	..	1	...	.....	19	1	..
Ventura Avenue	..	6	1	63	223	1	..
Ventura-Newhall	3	14	1	360	549	..	..
Watsonville	..	...	...	.....	7	..	..
Group No. 3:							
Brea-Olinda	..	...	1	21	372	..	..
Coyote—East	..	...	...	.....	76	..	..
Coyote—West	..	3	1	430	61	..	..
Dominguez	..	4	1	340	96	..	..
Huntington Beach	7	10	2	140	509	..	1
Inglewood	2	3	1	492	216	..	..
Lawndale	..	1	...	.....	7	..	..
Long Beach	5	31	5	615	1,259	5	2
Los Angeles-Salt Lake	..	...	...	.....	128	..	..
Montebello	2	6	4	3,700	183	..	..
Newport	..	...	...	.....	.....	..	2
Playa Del Rey	1	5	1	110	207	..	..
Potrero	..	...	...	.....	11	..	..
Richfield	..	2	...	.....	250	..	..
Rosecrans	..	...	...	.....	74	..	1
Santa Fe Springs	5	6	2	641	628	..	3
Seal Beach	..	...	1	1,304	105	..	..
Torrance	1	1	...	.....	503	..	..
Whittier	..	...	...	.....	161	..	..
Miscellaneous drilling	5	34	...	.....	.....	7	..
Group No. 4—Gas Fields:							
Buttonwillow	..	...	...	.....	24	..	..
Delano	1	1	...	.....	.....	..	..
Dudley Ridge	..	1	...	.....	1	..	..
Semi-Tropic	..	1	...	.....	.....	5	..
Tracy	..	2	...	.....	2	..	..
Total November	97	233	60	36,379	12,723	29	15
Total October	68	241	76	47,017	12,604	23	13
Increase	29	*8	*16	*10,638	119	6	2
Average for year 1934	53	196	38	47,553	11,053	21	17
Average for year 1933	30	124	21	22,842	9,290	14	18
Average for year 1932	18	108	15	13,069	8,928	16	14

*Decrease.

Southwest Texas District

By GEORGE WEBER

STARR COUNTY WILDCAT IN A HIGH PRESSURE GAS SAND

SAN ANTONIO, Tex., Dec. 30.—In spite of the current holiday slump in Southwest Texas drilling activity, a normal number of proven field producers were completed throughout the section, an important gas discovery was made in Starr County, and leasing and new locations continued to mount in recently developed areas.

Early in the week, the Lower Rio Grande Valley, an active wildcat area, received another prospective field in Starr County. John H. Clopton No. 3 Roos & Bennett, in Share 6 of Porcion 92, near the Rio Grande River, blew out and ran wild until it was killed Tuesday. The test cored a high-pressure gas sand at 2,461-2,608 feet with few shale breaks in the section. When the well went out of control, gas was forced through an upper sand and came to the surface 300 feet away from the hole. After the well was killed with mud, 1,000 feet of 8-inch casing was run to shut off the upper sands. Discovery of the thick gas sand is in itself an important discovery, but the operators plan to drill deeper to the contract depth of 4,000 feet if necessary, to find oil production.

Other activity in Starr County centered around the western edge of the Samfordyce field and Rio Grande City field.

Three wells were brought in in the Starr County section of Samfordyce: Phillips Petroleum Co. No. 1 Garcia Land & Cattle Co., a 600-foot north extension of the field, completed for 3 bbls. per hour on an eighth-inch choke through perforations made at 2,797-2,807 feet; Porter & Picken No. 3-A Garcia, a 300-foot westward extension, brought in for allowable on a three-thirty-second inch choke at 2,808-12 feet, and Skelly Oil Co. No. 11 Seabury, making 9 bbls. per hour on a three-sixteenths inch choke at 2,812.5-18.5 feet. In the eastern portion of the field, two wells, Navarro Oil Co. No. 1 Guerra, and Harrison-Davis-Bishop No. 7 Guerra, are on the sand and operators anticipate early completions. Work continued on two wells in the deep Mercedes field of eastern Hidalgo County and Union Sulphur Co. No. 5 American Rio Grande is swabbing oil and water with the total depth 7,506 feet.

Duval and Webb

Duval and Webb Counties received a number of new locations which will see activity beginning the first of the month. Principal active fields are Loma Novia, Lopez and Seven Sisters. In the Lopez field of eastern Webb County, activity is divided equally between the original proven section, and the south extension opened some months ago by C. F. Lewis No. 1 Lopez in section 110. Several new locations have been announced by G. G. Mortimer, one of the principal operators in the field.

Three producers were completed in the field in the past week. G. G. Mortimer No. 5 M. Lopez was brought in for 12 bbls. per hour on a half-inch choke in Survey 114 of the field proper. Montour Production Co. completed No. 1 Coffey in the south extension, Survey 111, for 15 bbls. per hour at 2,222 feet. Midway between field and extension and several hundred feet westward, Sierra Oil & Royalties Co. brought in the second producer on the Billings tract, Survey 113, for 15 bbls. per hour on a half-inch choke.

The O'Hern field in the same county received four new producers and one dry hole during the week. The Magnolia Petroleum Co. completed two wells on the Brennan-Benavides lease, and the Texas Co. and Texla Oil Corp. each one. O. W. Killam No. 43 Bruni, in Survey 9, was abandoned at 4,055 feet.

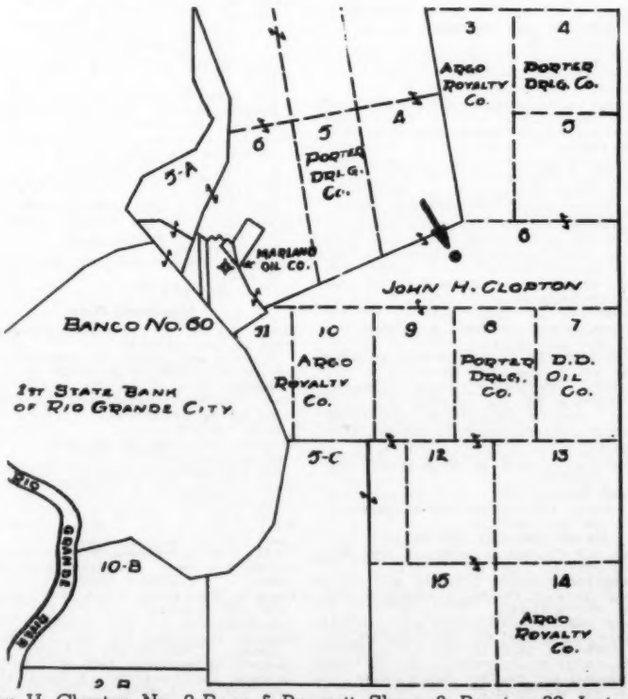
Duval County

Duval County saw continuance of the steady development of the Loma Novia and Seven Sisters fields. In the former, seven completions were made. Rodney DeLange No. 4 B.C.C., Survey 76, made an initial of 21 bbls. per hour on a half-inch choke; Frank Gravis No. 3 Byland was completed for 25 bbls. per hour at 2,635 feet; Hamill and others No. 1-D Hahl and No. 4-D Hahl, in Survey 76, made 22 bbls. and 30 bbls. per hour, respectively; Highland Oil Co. No. 5 Hubbard, in Survey 72, made a 25-bbl. per hour well on a quarter-inch choke; Humble Oil & Refining Co. gauged 24.97 bbls. per hour on No. 5-A Hubbard in Survey 84, and Shell Petroleum Corp. No. 17 Hubbard, in Survey 77, was swabbed in for about 16 bbls. per hour. Output for the new production in this field which has steadily developed for the past several months, is being sought in a proposed new line to deep water at Corpus Christi. In addition, one of the main lines now serving that area has increased capacity by installation of new pumping stations.

Seven Sisters

The Seven Sisters field in northern Duval County will see increased development with new locations being surveyed both in proven and outpost territory. Entrance of another new company into drilling activity in the field was marked this week by the Pan American Production Co. No. 1 Welder in Survey 381. Sole completion in this field during the week was Diamond Half Oil Co. No. 1 Serna, making about 40 bbls. per day from the Chernosky sand at 2,202-20 feet.

Northeast of Duval County in Live Oak County, a drill stem test on the Slick-Urschel Oil Co. No. 1 Watson & Shipp showed 210 feet of oil and some salt water with 125 pounds working pressure at 4,636-43 feet. This test is an offset to the discovery well of the Fort Merrill field; Mills Bennett No. 1 Watson & Shipp, and it promises to make equally as good a producer.



John H. Clopton No. 3 Roos & Bennett, Share 6, Porcion 92, Jurisdiction of Camargo, is closed in after blowing wild last week. Operators plan to drill deeper for oil

Nueces County

Interest in Nueces County is directed to the second test in the recently opened Clara Driscoll field. Santa Clara Oil Co. (Atkins & O'Neil) No. 2 Driscoll is set on an upper sand and will drill plugs and attempt completion early in the week. The discovery well is producing from sand at 3,804-16 feet having passed up the sand at 3,739-74 feet. The second test is seeking production at this latter level. Two oil producers and one gasser were brought in in the Saxet field of the same county. Republic Natural Gas Co. No. 12 Dunn initialled 712 bbls. per day and Southern Minerals Corp. No. 3-A Isensee made 72 bbls. in the first six hours of flow. Texon Royalty Co. No. 1 Taggert was plugged back from 5,702 feet to 2,200 feet and completed as a gasser at that depth.

The Saxet Heights field on the outskirts of Corpus Christi continued the rapid drilling pace set several weeks ago with two additional wells nearing completion.

San Patricio Activity

In San Patricio County added activity began in the southern part of the Plymouth field and a second test is starting in the 2-mile south extension. Sun Oil Co. completed No. 3 Hunt which flowed 51 bbls. in the first six hours and moved onto the No. 5 Hunt location. The same company has two rigs drilling on the Edgar lease in the vicinity of the Hunt producers. Conroe Drilling Co. and Magnolia Petroleum Co. are also active in this section. The former company abandoned the No. 3-D Welder in section 47, southwest edge well in the field. The test was bottomed at 5,934 feet. Plymouth Oil Co. added another producer in the No. 24-C Welder, section 71, which was brought in flowing in the pits through a three-thirty-seconds inch choke with tubing pressure of 950 pounds. In the south extension, George E. Smith is moving on the second well in Block 8. Humble Oil & Refining Co. will announce two locations in this sector in the near future.

Three fields of Bee County are seeing added work. Five rigs are drilling in the Dirks field and one producer was completed there during the week. The Caesar field has two tests drilling after a short period of inaction. Two completions were made in the Ray field, southwest of Tuleta, Duncan and Perkins No. 2-B Campbell, and Simms Oil Co. No. 7 Ray.

Rocky Mountain Area

By
T. R. INGRAM

IMPORTANT TEST IN DENVER BASIN NEAR TO COMPLETION

DENVER, Colo., Dec. 30.—The C. E. Lambert test in the Denver Basin in Colorado, an important wildcat, is expected to drill into the objective at any time and appears to be running high.

The Ohio Oil Co.'s No. 2 Emery, Big Hollow Structure, Wyoming, was plugged and abandoned. The General Petroleum Corp.'s No. 1 Whitford, on the Overland Dome, is showing oil on the sump at 6,000 feet and preparing to core. The Continental Oil Co.'s test to the Madison in the Big Muddy field will make a small well in the Lakota after plugging back. The Mountain Fuel Supply Co. completed a small gas well at South Baxter Basin.

One small well was completed in the Cut Bank Field in Montana and three new locations were made. Dave Mills' No. 1 Erickson, in the Pondera field, is estimated at 30 bbls. and proves up 40 acres. One small well was completed in the Kevin-Sunburst field.

In the southeastern New Mexico field the Christmas holidays appear to have been so generally observed that no news of importance came out of that big area. Field men took time off and so little was doing that there was no weekly meeting of scouts to check over results and progress of wells in the various districts making up the southeastern division of the state. Production fell off in keeping with the let-up of work in the field.

December Results

December was a quiet month in northeastern New Mexico counties and only two wells were completed, both of them dry, as a result of the whole month's work. Colorado completed none at all but Wyoming saw the completion of six new oil wells, three dry holes and one gasser. A 3,916-bbl. initial producer in Niobrara County led Wyoming's new wells. Montana operators completed 10 wells, six of which were oil wells, as their December harvest. Utah was inactive. It has nine tests at various depths, with most, if not all of them, shut down.

Rocky Mountain Runs

Production estimates for week ending December 28, were as follows:

WYOMING

Salt Creek	17,030
Big Muddy	1,530
Badger Basin	40
Black Mountain	70
Byron	1,560
Dallas Derby	560
Dutton Creek	80
Elk Basin	850
Ferris	30
Franzie	290
Garland	790
Grass Creek	2,280
Hamilton dome	1,290
Hudson	240
LaBarge	1,250
Lance Creek	2,230
Lost Soldier	1,240
Mule Creek	Shut in
Midway	50
Notches	Shut in
Oregon Basin	4,000
Osage	675
Pilot Butte	20
Rex Lake	Shut in
Rock River	1,850
South Casper	400
Poison Spider	190
Teapot	20
Waugh dome	100
Total Wyoming	38,660

MONTANA

Buckley-Border	140
Cat Creek	720
Cut Bank	7,100
Kevin-Sunburst	3,700
Lake Basin	50
Pondera	1,220
Total Montana	12,930

COLORADO

Florence	170
Ft. Collins and Wellington	390
Iles dome	2,820
Moffat	420
Orchard	60
Rangely	70
Tow Creek	200
Total Colorado	4,130

NEW MEXICO

Artesia	630
Cooper area	8,900
Eunice area	10,520
Hobbs	27,550
Hogback	200
Hospah	Shut in
Jal	3,670
Lea area	1,160
Maljamar	1,550
Monument	1,640
Rattlesnake	900
Table Mesa	90
Total New Mexico	56,810
Total Rocky Mountain Region	112,530

NEW MEXICO

Eunice Area

Gypsy Oil Co. No. 2 Arnott-Ramsay C, C NW SW sec. 21-21-36.
Drlg. 1,500 ft.

Continental Oil Co. No. 7-C-20 State, C NW SW sec. 20-21-36.
Set 5½-in. casing at 2,850 ft.

General Crude Oil Co. No. 1 State, C NW SW sec. 32-21-36.
T.D. 3,974 ft.; will acidize; shot, brought no results.

Penrose & Rowan No. 1 Carry, C NW SW sec. 22-22-37.
T.D. 3,555 ft.; 1,500 ft. of oil in hole in 6 hrs. Waiting for proration test.

Continental Oil Co. No. 4-B-8 Meyer, C NW NW sec. 8-21-36.
T.D. 3,885 ft.; acidized; flowed 30 bbls. per hr. with 4,096,000 ft. of gas per day.

Getty Oil Co. No. 1 State B, C NE NE sec. 16-21-36.
Drlg. 3,976 ft.

Continental Oil Co. No. 5-A-17 Meyer, C SE SW sec. 17-21-36.
T.D. 4,191 ft.; flowing 2 bbls. of fluid per hr., 50 per cent water.

Continental Oil Co. No. 3-A-30 Lockhart, C NE NW NE sec. 30-21-36.
T.D. 4,022 ft.; flowed 150 bbls. in 24 hrs., 9 per cent water, on gas lift. Will shoot.

Texas Co. No. 1 J. M. Dean, C SE SW sec. 28-22-36.
Drlg. 3,512 ft.

Continental Oil Co. No. 7-C-20 State, C NE SW sec. 20-21-36.
Set 5½-in. casing at 2,850 ft.

Gypsy Oil Co. No. 2 Orcutt, C SW SW sec. 5-21-36.
Drlg. 3,102 ft.

Humble O. & R. Co. No. 2 Adkins, C SW SW sec. 16-21-36.
Drlg. 203 ft.

Empire Gas & Fuel Co. No. 3 State C, C NE SW sec. 16-21-36.
Drlg. 3,729 ft.

Continental Oil Co. No. 3-C-20 State, C NW SW sec. 20-21-36.
Drlg. 3,070 ft.

Gypsy Oil Co. No. 2 Arnott Ramsey, C NW NW sec. 21-21-36.
Drlg. 2,764 ft.

Gypsy Oil Co. No. 2 North Bell-State, C SE NE sec. 6-21-36.
Drlg. 1,690 ft.

Atlantic Oil Prod. Co. No. 4 State-H, C NE NE sec. 5-21-36.
Drlg. 3,800 ft.

Gypsy Oil Co. No. 7 Bell-Ramsay-State, C SW NW sec. 4-21-36.
Set 9⅝-in. casing at 1,300 ft.

Tide Water Oil Co. No. 1 State, C NW SE sec. 16-21-36.
Cellar and pits.

Empire Gas & Fuel Co. No. 1 S. E. Felton, C NE NW sec. 28-21-36.
Drlg. 1,030 ft.

Amerada Pet. Corp. No. 2 Houston, C NE NE sec. 7-21-36.
Location.

Shell Pet. Corp. and Devonian Oil Co. No. 4 State, C NE NE sec. 20-21-36.
Ran 12½-in. casing at 251 ft.

Humble Oil & Ref. Co. No. 7 State B, C NE SE sec. 29-21-36.
Building rig.

Gypsy Oil Co. No. 1 A. L. Christmas, C SE SE sec. 27-22-36.
Moving in material.

Empire Gas & Fuel Co. No. 3 State D, C NE NE sec. 32-21-36.
Cellar and pits.

Atlantic Oil Prod. Co. No. 3 State H, C NW NE sec. 5-21-36.
Rigging up rotary.

Devonian Oil Co. No. 2 State-Heasley, C NW SE sec. 5-21-36.
Cellar and pits.

Humble Oil & Ref. Co. No. 3 Adkins, C NE SW sec. 16-21-36.
Cellar and pits.

Getty Oil Co. No. 1 State B, C NE NE sec. 16-21-36.
Cellar and pits.

Gypsy Oil Co. No. 1 Janda B, C NW SE sec. 32-21-36.
Location.

Harry Leonard et al No. 1 Hardy, C SE NE sec. 29-21-37.
Rigging up.

Ohio Oil Co. No. 1 State Maxwell, C NE NW sec. 16-22-36.
Deepening from 3,850 ft.; set 7-in. casing at 3,709 ft. and drilling.

Ohio Oil Co. No. 1 State McDonald, C SE SE sec. 16-22-36.
Cellar and pits.

Hobbs Area

Gypsy Oil Co. No. 1 Steve Taylor, C SE NE sec. 24-18-38 (wildcat).
T.D. 4,883 ft.; swabbed all water; P.B. to 4,760 ft.; testing.

Tide Water Oil Co. No. 1 State, 2,310 ft. from N, 330 ft. from E lines, sec. 14-18-37.
T.D. 4,368 ft.; plugged back and perforated pipe at 3,345-65 ft.; swabbed 19 bbls. in 24 hrs.

Shell Pet. Corp. No. 1 State E, C W half SE SE sec. 14-18-37.
Set 7-in. casing at 4,028 ft.

Texas Co. No. 1 Mattern, C NW SW sec. 20-19-37.
T.D. 3,826 ft. with drill pipe stuck.

Barnsdall Oil Co. No. 2 Cooper, C SW SW sec. 7-20-37.
Drlg. 3,843 ft.

Texas Co. No. 1 State C, C SE SW sec. 19-19-37.
Cellar and pits.

Monument Area

Skelly Oil Co. No. 1 State-Monument, C SE SE sec. 13-19-36.
Swabbed and flowed 20 bbls. per hour after acidizing; T.D. 4,055 ft.; will deepen.

Shell Petroleum Corp. No. 1 State C, C NE NE sec. 24-19-36.
Drlg. 4,059 ft.

Amerada Pet. Corp. No. 1 State H, C SW SE sec. 1-20-36.
Set 7-in. casing at 3,785 ft.

Skelly Oil Co. No. 1 State D, C SE SE sec. 1-20-36.
T.D. 3,160 ft.; milling on junk.

Superior Oil Co. No. 3 State, C SE NE sec. 2-20-36.
T.D. 3,937 ft.; flowed 75 bbls. per hr. after first acid; reacidized with 4,000 gals.

Amerada Pet. Corp. No. 1 Weir, C SW SW sec. 35-19-36.
Drlg. 1,475 ft.

Republic Production Co. No. 2 Selby & Mavesty, C NE SW sec. 35-19-36.
Set 9⅝-in. casing at 2,425 ft.

Amerada Pet. Corp. No. 2 State D, C SW NW sec. 1-20-36.
Set 9⅝-in. casing at 2,423 ft.

Texas Co. No. 2 State E, C NW SW sec. 1-20-36.
Drlg. 620 ft.

Amerada Pet. Corp. No. 1 State J, C SE SE sec. 2-20-36.
Drlg. 1,720 ft.

Texas Co. No. 3 State E, C NW SW sec. 1-20-36.
Set 10¾-in. casing at 1,006 ft.

Amerada Pet. Corp. No. 1 State I, C NE NW sec. 2-20-36.
Drlg. 3,044 ft.

Gypsy Oil Co. No. 1 Graham-State, C NW SE sec. 24-18-36.
Cellar and pits.

Sun Oil Co. No. 4 Weir, C NW SE sec. 35-19-36.
Cellar and pits.

Cooper Area

Skelly Oil Co. No. 1 Harrison, C NW SW sec. 5-23-37.
T.D. 3,794 ft.; plugged back to 3,759 ft.; tubed. Swabbed 88 bbls. in 24 hrs. with some water; will acidize.

Gypsy Oil Co. No. 1 Lemunion, C NE NE sec. 28-23-37.
Shut down at 539 ft.

Gypsy Oil Co. No. 2 Cooper, C NW SE sec. 14-24-36.
T.D. 3,698 ft., sulfur water; plugged back to 3,694 ft.

Gypsy Oil Co. No. 2 Cooper, C NW SE sec. 23-24-36.
T.D. 3,616 ft.; showed 1,500,000 ft. of gas; shut in.

Humble Oil & Ref. Co. No. 1 Hunter, C NW NW sec. 24-24-36.
T.D. 3,630 ft.; acidized; flowed 12 bbls. per hr.; set 7-in. casing.

Continental Oil Co. No. 2-A-15 Vaughan, 1,980 ft. E and 660 ft. S lines sec. 15-24-36.
Location.

Skelly Oil Co. No. 1 Simms, C SW NE sec. 4-23-37.
Set 13-in. casing at 252 ft.

Jal Area

Byrd-Frost, Inc. No. 2 Wells A, 1,980 ft. from N and 660 ft. from W lines of sec. 12-25-36.
T.D. 3,323 ft.; set 7-in. casing; showed oil and gas on drill stem test at 3,294-3-223 ft.

Harry Leonard No. 1-B Justice, SW NW NW sec. 20-25-37.
T.D. 3,501 ft.; plugged back to 2,970 ft. and shot with 28 quarts; cleaning out.

Texas Co. No. 1 Cagle B, C NW SW sec. 15-26-37.
Drlg. 2,268 ft.

Stanolind Oil & Gas Co. No. 11-B Farnsworth, C NE SW sec. 7-26-37.
Location.

J. G. Hammond, Inc., No. 2 Sholes, NW ¼ sec. 13-25-36, deepened from 3,258 ft. to 3,357 ft., flowing 18 bbls. of oil and 4,500 bbls. of water per day; testing.

Eddy County

R. D. Compton No. 7 Brainard, 200 ft. from S and 1,060 ft. from E lines of sec. 5-18-27.
T.D. 1,005 ft., in sand; fishing for bit.

Emperor Oil Co. No. 2 Puckett, C W½ NW NE sec. 24-17-31.
T.D. 3,498 ft.; 1,700 ft. of oil in hole; fishing for bailer.

Barnsdall Oil Co. No. 3 Dodd, C SE NE sec. 22-17-29.
Drlg. at 1,015 ft.

Fred Brainerd No. 1 Featherstone, CEL SW SW sec. 36-16s-28e.
T.D. 1,580 ft.; shut down.

Etz Bros. No. 1 State, C SE SW sec. 16-17s-30e.
T.D. 3,320 ft. in lime, estimated at 150 bbls. a day and 1,000,000 ft. of gas per day; will acidize.

T. J. Haley et al No. 1 Rose, C NE NE sec. 28-24-27.
Drlg. at 410 ft.

Flynn, Welch & Yates No. 72 State, C NW SW NE sec. 10-19-28.
T.D. 2,036 ft.; fishing for bailer.

D. & B. Oil Co. No. 1 Jenkins, C NW SW NW sec. 20-17-30.
Rigging up machine.

Chaves County

Tannehill No. 2 Campbell, C NE SE sec. 1-11-25.
Rigging up rotary.

Lea County

Vierson & Brown No. 1 Robbins, C NW SE sec. 14-11-32.
Drlg. 4,078 ft.

Shell Pet. Co. No. 1 State-Endura, C NE NE sec. 24-21-35.
At 3,677 ft. tested 5,000,000 ft. of dry gas; drlg. 3,837 ft.

NORTHWEST NEW MEXICO

Bernalillo County

Norine Realty Co., Inc., No. 1 Gallegas grant, SE SW NW sec. 19-11n-4e.
S.D. 630 ft.

Harding County

Khaay et al No. 1 De Baca, C sec. 19-20n-31e.
Running 8¼-in. at 847 ft.; 10-in. at 250 ft. (first report).

McKinley County

Seward et al No. 1 State, NE SE NE sec. 2-19n-9w.
T.D. 460 ft.; running pipe.

Forth & Hickerson No. 2 Santa Fe, NE NW NE sec. 29-20-9w.
Drlg. 280 ft. in shale.

Montrose Oil & Gas Co. No. 1 State, NE NE sec. 28-20n-9w.
Drlg. 535 ft.; 5 3/16-in. set at 500 ft.

S. Dysart et al No. 1 Bouton, E NW NE sec. 14-4n-10w.
Old well drilled deeper; resumed at 1,365 ft.

Quay County

Danube Drilling Co. No. 1 Will Wallace, NE NE SE sec. 12-9n-32e.
T.D. 1,000 ft.; 10-in. cmtd. at 505 ft.; cleaning out at 930 ft.

Quay County Dev. Co. No. 1 Wallace, SW SW SE sec. 19-9n-33e.
S.D. 816 ft.; rainbows at 814 ft.; show of salt wtr. at 775 ft.

Rio Arriba County

El Vado Structure Properties Co., Ltd., No. 1 Tierra Amarilla grant, NE sec. 26-3s-1e (unsurveyed).
S.D.; rig on location.

San Juan County

Jack Amenda No. 3, SW NW SW sec. 25-30n-12w.
Drlg. 720 ft. in shale; will run 6⅝-in.

J. F. Cross et al No. 1 Wilson, SW SW SE sec. 17-30-11w.
S.D. 810 ft.

Continental Oil Co. No. 49 Rattlesnake, SW NE NE sec. 2-29n-19w.
Location.

Cross & Poole No. 1 Aztec, sec. 1-30-11w.
Making water shutoff at 740 ft.

Southern Union Gas Co. No. 4 Government, C NW NE sec. 14-28-11w.
Drlg. 1,200 ft.; 8¼-in. at 1,190 ft.; 10-in. at 480 ft.

Nick Spatter No. 1 fee, C NE SW sec. 32-31-11w.
Running 6⅝-in. at 1,780 ft.

Torrance County

43 Pet. Co. No. 1 Greenfield, C NW SW sec. 17-9-8e.
Drlg. 1,250 ft. in sand.

Bruce Frazier No. 1 Graier, SE sec. 12-2n-31e.
Drlg. 1,210 ft. in granite wash; water at 882-86 ft.

UTAH

Grand County

Columbia Crude Co. No. 1 Rath, SW SE sec. 12-25s-20e.
Drlg. 148 ft. after straightening crooked hole.

Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 33-22n-22e.
Drlg. 1,690 ft.

Glenn Ruby et al No. 1 State, NE SE SE sec. 34-31s-16e.
Running pipe to S.O. water at 40 and 70 ft.; show of oil at 75 ft.

Utah County

Diamond Oil Co. No. 4 Government, CSL SE NW sec. 16-8s-5e.
Drlg. 3,942 ft.

Washington County

Arrowhead Pet. Co. No. 1-A, SE SW NE sec. 1-43-15.
Drlg. 3,012 ft.

Anna V. Toney No. 1 Toney, CNL NE SE sec. 33-40s-11w.
Drlg. 370 ft.

W. W. Toney No. 1 Government, CNL SE SW sec. 18-41s-12w.
Drlg. 185 ft.

COLORADO

Adams County

Glenridge Oil Corp. No. 1 Hills, SE SE SE sec. 27-3s-64.
T.D. 4,150 ft.; cmtd. back 200 ft. and C.O. at 4,060 ft. (formerly Hills Dome Oil Lease).

Riddle Pet. Co. No. 1 Baxter, C SW sec. 3-3s-6w.
S.D. 700 ft. for drill pipe.

Archuleta County

Wm. E. Hughes Est. No. 4 fee (unsurveyed), 400 ft. E of No. 2 fee, sec. 24-33n-2e.
S.D. 122 ft. for holidays.

Oil City Pet. Co. No. 1-A Garnett, NW NE NW sec. 25-33n-2e.
S.D. 1,515 ft.; top Dakota series at 1,415 ft.

Oil City Pet. Co. and Archuleta O. & G. Co. No. 1 Rath, 220 ft. N of S line, 220 ft. W of E line, Lot 4, sec. 24-33n-2e.
Rigging.

K. L. Kendrick No. 1 Crowley (unsurveyed), sec. 2-32-1e.
Drlg. 430 ft.; sulp. water in Dakota; muddy dry.

Baca County

Robb, Morgan & Gross No. 1, NE NE NE sec. 24-32s-48w.
Bldg. rotary rig.

Boulder County

Leslie R. Steele et al No. 1 Maxwell, SW NE NW sec. 24-1n-71.
Set 4½-in. on bottom at 2,412 ft.; drlg. 2,414 ft.

Elbert County

The Lambert and others No. 1 Union Pacific test on the Ramsey Petroleum Corp.'s block east of Denver in the Denver basin is at a critical stage. It was drilling at 5,332 feet last night (Thursday) in black shale overlying the Muddy sand, the first objective, and is expected to drill into that horizon at any time. The well appears to be running high. It topped the Niobrara at 4,365 feet, had the Timpas at 4,896-4,925 feet and cut the Codell sandstone at 4,925-35 feet. The elevation is 5,750 feet.

C. E. Lambert No. 1 Union Pacific, C sec. 13-8s-57w.
Drlg. 5,332 ft. in black shale.

Jackson County

Colorado Oil Ref. Co. No. 1 North Park Coal, NW NW sec. 18-9n-78.
T.D. 1,805 ft.; underreaming 12½-in. at 1,500 ft.

Continental Oil Co. No. 3 Hoyle, NW NW NE sec. 34-9n-78.
T.D. 5,258 ft.; top Morrison at 5,183 ft.; cemented back and drilled out cement to 5,062 ft.; perforated casing at 5,020-38 ft. and testing.

Jefferson County

Ruby Hill O. & G. Co. No. 1 Braden, SE cor. sec. 24-4n-69.
Drlg. 4,370 ft.

La Plata County

McGarr Pet. Co. No. 1 Pinton Mesa, CSL NE NE sec. 34-33n-12w.
S.D. 1,300 ft. for 10-in.

Larimer County

California Co. No. 1 State, SE SW NE sec. 6-11n-68w.
Rigged and ready to spud.

Las Animas County

Mountain States Oil Corp. No. 1 Nickola, C NE NE SE sec. 10-34-62.
Tools recovered; making new hole at 1,773 ft.; 10 ft. in Greenhorn lime.

Lincoln County

Consolidated Smelting & Metals Co. No. 1 Hancock, NE NE sec. 7-17s-52.
T.D. 1,780 ft.; rebuilding derrick.

Moffat County

Ohio Oil Co. No. 1 Robertson, C SW SW sec. 3-6n-92w.
Location; (first report).

Texas Co. No. 7 Knowlton, NE cor. Lot 8, sec. 10-4n-91w.
T.D. 2,956 ft.; preparing to fish for 3-in. drill pipe.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NE sec. 21-26n-17w.
T.D. 3,705 ft.; fishing for tools.

L. C. Osborne et al No. 32 Ute, CSL NE NE sec. 15-32n-18w.
Drlg. 330 ft.

Morgan County

Swisher et al No. 1 Lunt, 92 ft. W of E line and 360 ft. N of S line, sec. 3-4n-60.
T.D. 1,300 ft.; underreaming and carrying 4¾-in. at 890 ft.

Park County

South Park Oil Co. No. 1 State, SE SE SW sec. 16-11s-75w.
Landed 6¼-in. on bottom at 3,720 ft. and making new hole at 3,730 ft.

South Park Oil Co. No. 1 Lebert, NE NE NW sec. 21-11s-75w.
Cellar.

Prowers County

Trojan O. & G. Co. No. 1 Lotus Oil, NW NE NE sec. 15-23-4n.
T.D. 5,890 ft.; reconditioning hole at 5,227 ft.

Routt County

Mid-Colo Pet. Co. No. 1 Omholt, NE NE SE sec. 29-4n-87w.
T.D. 2,860 ft.; underreaming 8¼-in. at 2,830 ft.

WYOMING

Albany County

The Ohio Oil Co. No. 2 Emery, NE SE NE section 18-15-75, Big Hollow structure, was plugged and abandoned at 2,547 feet, total depth. Cores taken at the bottom of the hole showed the formation dipping 60 degrees. It had water in the Sundance at 1,322 feet and went out of the red beds at 2,385 feet. It was intended as a Tensleep test. The location is 2 miles north of No. 1 Emery, which had water in the Tensleep at 2,445 feet and was abandoned at 2,579 feet.

California Co. No. 3 Hoist, 1,650 ft. W of E line and 970 ft. N of S line, sec. 13-17n-77w.
Rigging up rotary.

Big Horn County

J. W. Bales No. 1 Parker, C SW SW sec. 23-4-89.
Drlg. 697 ft.

Peter Evanoff et al No. 1 McAllister, Lot 40, NW NE SE sec. 3-55n-97w.
S.D. 2,296 ft. (cor.) for casing.

Kinney-Coastal Oil Co. No. 3 Government, SW NW NE sec. 24-56n-98w.
T.D. 4,234 ft.; redrilling at 4,170 ft.

W. S. Gilbert No. 1 Zaring, SE SE SE sec. 35-52n-93w.
Drlg. 1,041 ft.

Ohio Oil Co. No. 4 Byron Union, SW SW NE sec. 22-56-97.
Drlg. 3,867 ft.

Ohio Oil Co. No. 1 Lindsay, SW SW NE sec. 23-56-97w.
Drlg. 1,140 ft.

Montana-Wyoming Oil Co. No. 1 Allen, 210 ft. from N line, 936 ft. from E line, Lot 52 (SE NW SE) sec. 32-56n-97w.

J. H. Shaffer No. 1 Keachie, C SW SW sec. 5-49-61.
S.D. 1,360 ft. (cor.); will seal off water at 1,270 ft.

W. O. Taylor et al No. 1 Hoskins, Lot 5 (SE SE), sec. 25-56n-97w.
T.D. 5,275 ft.; plugged back to 3,500 ft.; redrilling at 4,250 ft.

Carbon County

General Petroleum Corp. No. 1 Whitford, a wildcat on the Overland dome, topped the Lakota sand at 6,000 feet and began showing oil on the sump. It is preparing to core the sand. It had intermittent shows of oil in sandy shale at 5,900-6,000 feet. This well began spudding a year ago with Earl W. Reeder, Inc., in charge. The past summer the General Petroleum Corp. took it over to complete. This is a very important wildcat and is just to the west of No. 1 Union Pacific, which had good shows of oil in several horizons, but is shut down awaiting the outcome of this well.

Ohio Oil Co. is preparing to deepen another of its Dakota sand wells in the Rock Creek field to the Sundance in its No. 8 Harrison & Cooper. This well was completed in the Dakota in 1921 with an initial production of 750 bbls. It is located half a mile to the south of the three wells deepened to the Sundance this year, two of which were producers in the upper part of that formation.

Ohio Oil Co. and California Co. No. 2 State, C NW NW sec. 36-21n-79w.
Cemented 7-in. at 5,682 ft.; 9-in. liner cemented at 5,539-5,698 ft.; will set packer to S.O. first Sundance and test second sand through liner perforated at 5,655-98 ft.

Ohio Oil Co. and California Co. No. 1 Union Pacific, Acct. J, NE SW NW sec. 25-21-79w.
Drlg. 4,628 ft. in shale.

Ohio Oil Co. No. 3 State, CEL SE NE sec. 34-20n-78w.
T.D. 3,225 ft.; rigging up for pump test.

Ohio Oil Co. No. 8 Harrison & Cooper, SW SW sec. 35-20n-78w.
Old well drilled deeper; rigging up to deepen to Sundance.

General Pet. Corp. No. 1 Whitford, SW SE SE sec. 24-20-84.
T.D. 6,000 ft.; preparing to core Lakota.

Shirley-Wyoming Oil Co. No. 1 Government, NW NE sec. 2-26n-80w.
Drlg. 1,300 ft. in red beds.

Union Oil Co. of Calif. and Mutual Oil Synd. No. 1 Union Pacific, 1,890 ft. from E line and 1,320 ft. from S line, sec. 1-18-78w.
S.D. at 4,000 ft. to repair boilers; waiting for new drill stem.

Continental Oil Co. No. 60 State, NW SW NE section 9-33-76, deep test in the Big Muddy, which penetrated all horizons down to and into the Madison at a total depth of 6,597 feet, plugged back and completed as a producer in the Lakota, flowing at the rate of 125 bbls. of oil and 125 bbls. of water per day. The horizons cut were as follows: Lakota, 4,359-4,407; Morrison, 4,407-4,620; Sundance, 4,620-4,910; Tensleep, 5,933-6,247; Amsden, 6,247-6,553; top of Madison, 6,553 feet.

John Ackard No. 1 Daniels, SW SW SE sec. 17-32-71.
Drlg. 3,050 ft.

Fremont County

Mid-American Oil Co. No. 3 Government, NW NE SW sec. 14-28-92.
T.D. 2,486 ft.; Embar at 2,035-2,457 ft.; estimated at 250 bbls. per day; 5 ft. of saturation in top of Tensleep at 2,457 ft. followed by water; S.D. to acidize Embar.

Nelson & Poupiert No. 3 Enos, Lot 7, sec. 27-3n-1w.
S.D. 1,100 ft.

Hot Springs County

California Exploration Co. No. 2 Government, NW SW NW sec. 4-44-96.
T.D. 4,235 ft.; running 8⅝-in. to 3,890 ft.; pipe frozen at 2,940 ft.; jarring.

Ohio Oil Co. No. 72 Millsiron Cattle Co., NE SE SE sec. 19-46n-98w.
T.D. 3,993 ft.; bailing in and showing for an oil well.

Stanolind O. & G. Co. No. 20 State-Ridgely, SE NE SE sec. 19-46n-98w.
Rigging up rotary.

Niobrara County

Black Hills Ref. Co. No. 1 Wyrick, C SW NE sec. 28-36n-64w.
Derrick.

J. H. Huber Co. No. 1 Jones, NE SE NW sec. 6-25n-65w.
T.D. 4,096 ft.; plugged back to 4,070 ft.; S.D.; unable to shut off water.

Fall River Royalty & Producers Co. No. 5-L Briggs, CSL NE NE sec. 2-39n-61w.
Drlg. 385 ft.

Ohio Oil Co. No. 6 Converse Sheep, 619 ft. from E line and 680 ft. from S line, SW SE sec. 32-36n-65w.
Rigging up rotary.

Ohio Oil Co. No. 7 Converse Sheep, C NW SE sec. 32-36n-65w.
Drlg. 1,910 ft.

Ohio Oil Co. No. 5 Converse Sheep, C SE SW sec. 32-36n-65w.
Rig up.

S. & H. Dev. Co. No. 1-A Olinger, SE NE NW sec. 1-36-63.
T.D. 1,674 ft.; rigging up to pull and reset 5 3/16-in. at 1,650 ft.; to shut off Dakota water and test show in Lakota.

Sweetwater County

Mountain Fuel Supply Co. No. 1 Brooks, C NW NE section 15-16-104, South Baxter Basin, was completed at 2,195 feet for 600,000 feet of gas in the Frontier at 2,145-67 and 2,180-90 feet. This well is on the east side and proves up some additional territory.

Wilmington Oil Co. No. 1 fee, NW NW NW sec. 18-26-98w.
T.D. 3,115 ft.; repairing derrick; building camp.

Uinta County

Druscilla Connell et al No. 5 Government, SW NW NW sec. 24-15n-118w.
Drlg. 1,070 ft.

Intermountain Pet. Corp. of Utah No. 1 Union Pacific-Haynes, SW NW SW sec. 24-19n-118w.
Drlg. 1,571 ft.

W. D. Marshall No. 1 Government, NW SW SE sec. 12-15n-118w.
Drlg. 871 ft.

Ragan Pet. Co. No. 4, NW SW NW sec. 13-15n-118w.
Drlg. 1,985 ft.

Washakie County

Ariton & Doyle No. 1 Government, SW SW SE sec. 29-48-91w.
T.D. 900 ft. (cor.).

Wyoming O. & R. Co. No. 2 Government, NW SW SW sec. 31-48-90.
Drlg. 435 ft. (cor.).

Weston County

Conway Oil Corp. No. 1 Government, C SE NW sec. 7-41-60.
S.D. 2,087 ft. (cor.).

Beaver Creek Oil Synd. No. 1 State, C NE NE sec. 23-44-63.

Des Moines-Osage Oil Co. No. 12 Ost, C NE NE sec. 25-46n-64w.
Rigging (first report).

Henry Egert No. 2, SW NE NE sec. 8-46n-63w.
Drlg. 180 ft.

H. D. Wiltse No. 8, CNL NW NE sec. 17-46n-62w.
Rig on location (first report).

MONTANA

Big Horn County

Big Horn O. & G. Co. No. 24, NW SE NE sec. 26-1s-33e.
Drlg. 596 ft.

Daniels Pet. Co. No. 1 May, C SE SE sec. 13-1s-33e.
T.D. 3,000 ft.; recmtd. 6¼-in. at 2,895 ft.; drlg. plug.

Carbon County

Bailey Round Butte Oil Co. No. 1, 1,120 ft. W of E line and 3,140 ft. N of S line, sec. 3-6s-23.
Drlg. 1,560 ft.

Choteau County

Mills & Decker No. 1, NE NW sec. 29-27n-13e.
Rig up.

Fallon County

Montana-Dakota Utilities Co. No. 1, NE NW sec. 17-3n-62e.
T.D. 5,850 ft.; cmtd. 8⅝-in. at 5,828 ft.; W.O.C.

Fergus County

Kalispel-Kevin Oil Co. No. 2 Emmons, C SW SE sec. 29-21n-18e.
Drlg. 440 ft.

H. C. Rowland et al No. 1, NE NW NE sec. 13-17n-23e.
S.D. 831 ft.

H. C. Rowland No. 2, SW SW NE sec. 13-17n-23e.
Drlg. 220 ft. (first report).

E. A. Fenholt No. 1, NW NW SW sec. 21-21n-17e.
Rigging up.

Judith Operating Co. No. 1 Government, C SW SW sec. 26-22n-17e.
Drlg. 1,050 ft.

Gallatin County

Ben W. Ryan No. 1 Tice, NE NE NE sec. 28-1n-3e.
Drlg. 2,670 ft.

Glacier County

There was one completion in the Cut Bank field. This was Lon Crumley No. 2 Jones, C NE SW section 31-34-5w, an inside location. It filled 200 feet with oil at a total depth of 2,860 feet. The Cut Bank was at 2,777-2,819 feet and the pay at 2,788-2,819 feet. Three new locations were reported.

A. B. Cobb No. 5 Walberger, C NE NE sec. 35-35n-6w.
Rig.

Cobb-Pardee No. 1 Stufft, C SE NW sec. 25-36n-6w.
Drlg. 550 ft.

Cobb-Reagan No. 1 Jackson, NE NW NW sec. 5-32n-5w.
Spudding 50 ft.

Gardner et al No. 1 Cole, C SE NW sec. 2-32n-6w.
Rigging.

Indian Oil Co. No. 1 Britton, C NE SE sec. 14-34n-6w.
Drlg. 765 ft.

L. P. Jackson et al No. 1 Tribal, NW SE NW sec. 22-34n-7w.
Rigging.

R. C. Jeffries No. 4 Lukens, NE NE NE sec. 12-32n-6w.
T.D. 2,710 ft.; drlg. by bit.

Kincheloe-Hanlon No. 1 State, SE SE SE sec. 25-32n-6w.
Bldg. rig (first report).

Jack Marshall No. 1 Tribal, 440 ft. S of N line and 200 ft. E of W line, Lot 7, sec. 7-32n-5w.
Location (first report).

McCabe & Jeffries No. 1 Rasmussen, NE SW NE sec. 32-33n-5w.
Colorado at 500 ft.; 10-in. at 575 ft.; W.O.C.

Montana Power Gas Co. No. 1 Benish, C SW NW sec. 9-33n-5w.
Drlg. 1,775 ft.

Montana Power Gas Co. No. 1 McDougal, C SE NW sec. 31-34n-5w.
Drlg. 910 ft.; Colorado at 450 ft.; 10-in. at 500 ft.

Nadeau Bros. No. 1 Tribal, C Lot 4, sec. 6-32n-5w.
10-in. at 607 ft. with 60 sacks; W.O.C.

Neil Spencer No. 1 Tweedy, CSL SE SW sec. 25-33n-6w.
Rigged; W.O. engine.

Santa Rita O. & G. Co. No. 1 Shearon, 660 ft. S of N line and 348 ft. W of E line, sec. 34-36n-6w.
Drlg. 2,050 ft.

Santa Rita O. & G. Co. No. 1 Lander, C N half SE sec. 16-35n-6w.
Drlg. 2,932 ft.; show of oil.

Santa Rita O. & G. Co. No. 1 Corey, NE NW SE sec. 5-32n-5w.
Cmtd. 7-in. at 2,945 ft. with 60 sacks.

R. C. Tarrant No. 2 Hope, NW SW SW sec. 18-34-6w.
S.D. 2,610 ft.

R. C. Tarrant No. 4 Getty, NE NE SW sec. 2-34n-6w.
Drlg. 2,750 ft.

R. C. Tarrant No. 2 Jones, NW NW SW sec. 31-34n-5w.
T.D. 1,720 ft.; fishing for bit.

Texas Co. No. 4 fee, 1,468 ft. E of W line and 660 ft. N of S line, sec. 15-35n-6w.
Drlg. 1,551 ft.

Texas Co. No. 1 Walker, C NE NE sec. 2-35n-6w.
Rigging.

Texas Co. No. 1 Ewing, C SW sec. 24-35n-6w.
Moving in rotary equip.; (first report).

Judith Basin County

Fletcher E. Hunt No. 3, NW SE NE sec. 30-14n-15e.
Drlg. 446 ft.; show of oil; will run 8¼-in.

Liberty County

Western Natural Gas Co. No. 1 Turner, C SE sec. 15-37n-4e.
Drlg. 1,530 ft. (first report).

Pondera County

Dave Mills No. 1 Erickson, SW cor. section 3-27-4w, Pondera field, one location north of a producer, was completed at 1,912 feet and is estimated at 30 to 40 bbls. initial. Top of sand was at 1,898 feet and the pay at 1,902-12 feet. It will be acidized in the spring.

Texas Co. No. 1 Unit 2, NE SW SW sec. 21-30n-5w.
T.D. 2,020 ft.; prepared to run 10-in.

Teton County

Teton Oil Co. No. 1 Reickhoff, C NE SW sec. 14-24n-5w.
Rigging.

Toole County

One completion was reported in the Kevin-Sunburst field in the Ohio Oil Co. No. 8 Regg, NW NW SW section 14-35-2w, for 25 bbls. initial on the pump at 1,567 feet, total depth, after acidizing. The Ellis-Madison was at 1,535-60 feet.

C. Leonard Smith No. 1 H. Halverson, in the Devon district, is a near completion at 1,285 feet in the top of the Kootenai. It is shut down until after the holidays. It had a little oil and gas in hard tight sand at 1,196-1,210 feet and will shoot.

Carscallen & Mitchener No. 1 Greguer, C S half NE sec. 10-34n-2w.
S.D. 1,650 ft.

Cassidy & Cassidy No. 1 Veich, 220 ft. W of E line, 660 ft. N of S line, sec. 31-35-2w.
S.D. 1,630 ft.

Cook & Eddy No. 1 Kaskin, SW SW SW sec. 25-36n-2w.
Drlg. 620 ft.

A. E. Crumley No. 2 Shaw, SE NW SE sec. 35-36n-2w.
Rig.

Eddy & Engleking No. 1 Sohn, SW cor. NE sec. 26-35n-2w.
Drlg. 800 ft.

Fraser & Smith No. 1 Crabtree, NE NE SE sec. 14-34n-2w.
Rigging.

Huso Brothers No. 3 Government, SW NE SE sec. 14-35n-3w.
Drlg. 1,425 ft.

Fred R. Munger No. 1 Government, SW NE NW sec. 13-35-2w.
T.D. 1,546 ft.; Ellis-Madison at 1,535-46 ft.; show of oil; acidized 500 gals.
No results; will acidize again.

W. M. Hanlon No. 2, SW NW SE sec. 27-3n-3w.
T.D. 1,712 ft.; acidized and cleaning out.

Imperial-Craig Oil Co. No. 2 Martin, 220 ft. N of S line and 1,546 ft. W of E line, sec. 18-35n-1w.
Drlg. 1,450 ft.

Nepsted-Montgomery-Farther No. 1 Grass, 660 ft W of E line and 220 ft. N of S line, sec. 17-35n-1w.
Rigging.

Ohio Oil Co. No. 8 Reeg, NW SW SW sec. 14-35n-2w.
T.D. 1,562 ft.; Ellis-Madison at 1,535-60 ft.; little oil; acidized 500 gals.; W.O.A.

L. O. Reickoff No. 2 Government, SW SW NE sec. 3-35-3w.

Stock Brothers No. 2 Haggerty, NW SW SW sec. 13-35n-2w.
S.D. 1,524 ft.

C. Leonard Smith No. 1 Eckoff, C SE sec. 6-33n-2e.
S.D. 575 ft.

C. Leonard Smith No. 1 Federal Land Bank, C NE NE sec. 11-35n-1e.
S.D. 175 ft. for winter.

C. Leonard Smith No. 1 Halverson, C NE SE sec. 18-33n-2e.
S.D. 730 ft.; tested 500,000 ft. of gas at 720 ft.

C. Leonard Smith No. 1 H. Halverson, NW NE sec. 18-33n-2e.
Drlg. in; 6⅝-in. set at 1,135 ft.

Effective January 1, 1936, William J. McKee has been appointed assistant general manager of sales in charge of sales of standard pipe, with headquarters in Pittsburgh, Pa., for the National Tube Co. Mr. McKee was formerly manager of sales of the New York office.

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Among Gulf Coast Drilling Contractors

L. W. Capps has moved a rig to the Iowa field in Louisiana for F. A. Gillespie and others; is preparing to start up on No. 1 Mitchell in Jackson County that has been shut down for several days at 4,116 feet, and has completed No. 1 Wilson at Port Lavaca in Calhoun County for the Crown Central Oil Co.

Nicklos Drilling Co. is preparing to complete No. 1 Marcantel and No. 1 Kern at Tepetate in Acadia Parish, Louisiana, for Continental Oil Co. and will probably move the rig to new locations recently announced by the company.

C. & C. Drilling Co. has moved in a rig for Cockburn Oil Co. for a wildcat test located in the Christian Smith Survey, San Jacinto County.

Talbot Drilling Co. has spudded in on a wildcat test in Walker County for Neuevo Petroleum Co. located on the Delta Land & Timber Co. lease in the J. C. Harrison Survey.

J. E. Hooper is drilling below 6,800 feet on a wildcat test in Harris County known as No. 1-B Willey and located in the Victor Blanco Survey, 2½ miles north of Sheldon. On No. 1-A Swilley he is waiting for cement to set after drilling to 2,010 feet. Both tests are being drilled for A. C. Hill. Two and a half miles northwest of the town of Cold Springs in San Jacinto County his No. 1 R. B. Love is shut down at 3,756 feet while the boilers are repaired.

Glenn McCarthy has rigged up and was ready to spud No. 1 Howth located on a geophysical prospect in the western part of Jefferson County. At Anahuac in Chambers County, No. 5 White is bottomed in oil sand at 7,094 feet and is being completed for Humble Oil & Refining Co.

Smith and McDannald received the contract to workover District No. 22 at South Houston for Stanolind Oil & Gas Co. and has other rigs running located as follows, one at Louise for Pure Oil Co., one at Long Lake for Tide Water Oil Co., one at Big Hill for Stanolind Oil & Gas Co., and one at St. Martinsville in St. Martin Parish, Louisiana, for Tide Water Oil Co.

Ben (Bud) Coyle has drilled another discovery well, this time for Herton Oil Co. in St. Mary Parish, Louisiana, which was originally drilled to a depth of 7,512 feet and plugged back to 7,498 feet where it was completed for an initial production of 25 bbls. per hour through a quarter-inch choke with tubing pressure 1,400 pounds and casing pressure 1,400 pounds. At the Mud Lake prospect in Cameron Parish he is drilling below 7,084 feet on No. 1 Lutcher Moore for the Pan American Producing Co. and at Port Barre for the same company, 10¾-inch surface casing was set at 1,045 feet with the hole bottomed at 1,048 feet.

Loffland Brothers Drilling Co. has two wells in the new St. Martinsville field in St. Martin Parish, which are nearing the pay zone. No. 1 Domengeaux is drilling below 5,387 feet and No. 1 Ladeaux is drilling in shale below 4,512 feet. Both wells are being drilled for the Coastal Plains Oil Co. and are located northeast and southeast of the discovery well.

Al Buchanan of San Antonio completed producers in the Plymouth and Loma Novia fields, Southwest Texas, during the week. Several of his rigs are drilling in the former field for the Plymouth Oil Co. In Loma Novia, a completion was made for the Humble Oil & Refining Co. and two wells being drilled for the Texas Co. are nearing completion. In the Seven Sisters field, also in Duval County, crews are completing producers for Mid-Continent Petroleum Corp. and Shell Petroleum Corp. and a third is drilling the Buchanan and Blanco Oil Co. No. 5 Wood-Welder.

Trinity Drillers, Inc. of San Antonio have four rigs drilling in Southwest Texas. No. 2 Billings in the Lopez field, Webb County, is being completed for the Superior Oil Co. In Live Oak County, a drill stem test on Slick-Urschel Oil Co. No. 1 Watson & Shipp in the Fort Merrill field indicated that a good producer may be expected.

George W. McMurray of San Antonio completed a producer in the Ray field, Bee County, for Duncan & Perkins and is now drilling in the Dirks field of the same county for the Devonian Oil Co.

Crew of the recently completed George E. Smith No. 1 Britton, 2½-mile extension to the Plymouth pool in San Patricio County, Texas. Left to right: M. E. Ivy, Dick Morgan, W. B. Lockard, Paul Kyser, Ed Jasik and R. Rutherford, driller

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Texas and Louisiana Gulf

By F. L. SINGLETON

ONE NEW GULF COAST POOL; TWO TESTS LOOK PROMISING

HOUSTON, Tex., Dec. 30.—The discovery of a new field in northern St. Mary Parish, Louisiana, and the possibility of two more being added to this district during the week, continued to make Coastal Louisiana the most interesting area on the Gulf Coast.

Herton Oil Co. No. 1 Roane, in the northern part of St. Mary Parish, Louisiana, which tested salt water last week on a production test from 7,460-7,512 feet, was plugged back and drilled out to 7,498 feet, and after screen and liner was reset it was completed for an initial production of 25 bbls. of 41.6 gravity oil per hour through a one-quarter inch choke with tubing pressure 1,190 pounds and casing pressure 1,175 pounds.

This well opens the first commercial production for the parish and is situated on a solid block of approximately 12,000 acres which is controlled entirely by a group of independent operators of Houston, who leased the block in 1934 and had it worked by the Petty Geophysical Engineering Co. the first of the year. The well is situated southeast of the town of Jeanerette and west of the Charenton prospect, on which numerous tests have been drilled. Seven-inch casing was cemented at 7,460 feet and production is from the Miocene sand. Actual foot measurements are 1,386 feet north and 688 feet east of the SW cor. of Lot 13, in section 38-13s-9e.

The operators have erected four 1,000-bbl. storage tanks on the lease and have laid approximately 2,000 feet of 4-inch pipe line to the Bayou Teche, where the oil will be barged out, probably to New Orleans.

Big Lake Prospect

At the Big Lake prospect in north central Cameron Parish, screen was being set preparatory to testing Magnolia Petroleum Co. No. 1 Broussard, which blew out the second time and ran wild for a short time while the operators were coming out of the hole after pulling seven stands of pipe. The pressure built up to 3,000 pounds and it is reported to have made some distillate. The hole has been plugged back to 7,966 feet and the casing perforated with 25 holes from 7,944-66 feet.

This is the first test to be drilled on the company's block of approximately 17,000 acres that extends along the northeast side of Calcasieu Lake, and extending southwest to the Willow Lake area in the south part of section 13-12s-9w. It was originally drilled to a total depth of 9,501 feet and the operators are testing a series of possible oil sands indicated on an electrical coring test, four of which have been at greater depth and all having tested salt water.

Another possible pool opener is in the northern part of Acadia Parish, where Superior Oil Producing Co. is preparing to test No. 1 Adams Smith, in section 47-7s-1e. The hole was carried to 8,387 feet, and after an electrical coring test showed a sand with 25 ohms resistivity at 7,130 feet, the hole was plugged back, and 453 feet of 9⅝-inch blank liner was set from 7,085-7,538 feet preparatory to making a drill stem test. The well is situated on what is known as the Church Point prospect and is northwest and northeast of two deep dry holes drilled by Superior Oil Producing Co. and the Woodley Petroleum Co.

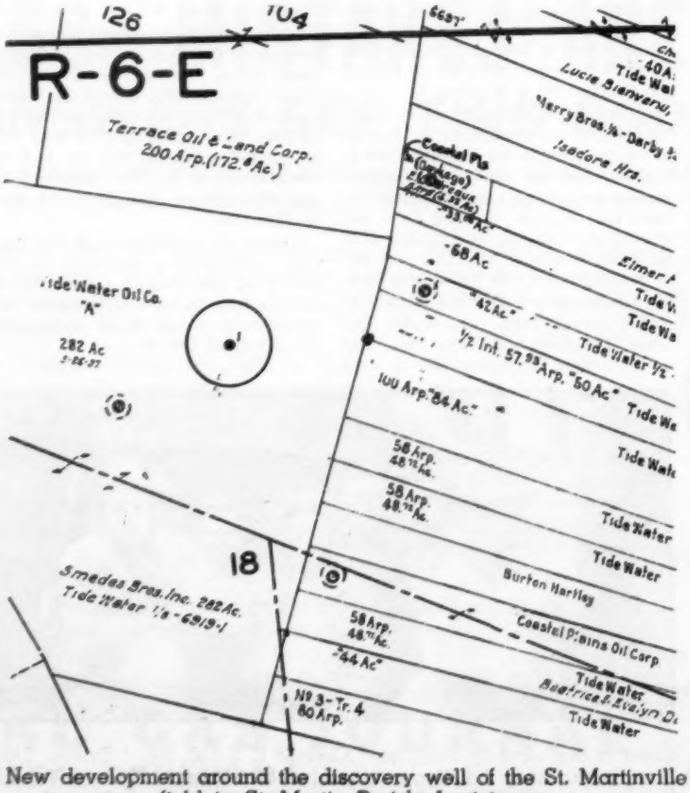
Tepetate Field

Continental Oil Co. is preparing to test No. 1 Kern at the Tepetate field, Acadia Parish. The gas sand was topped at 8,273 feet, the oil sand at 8,306 feet, and the hole is bottomed at 8,318 feet with 5¾-inch casing cemented at 8,310 feet. Location is in section 29-7s-2w. The company's No. 1 Marcantel, a west offset to No. 1 Welch, which was completed last week at 8,324 feet for a good producer, began to show approximately 11 per cent salt water and has been plugged back to 8,310 feet, where it is scheduled to be tested. It was evidently drilled too deep and it is thought to have established the water level for the field. Location was made for No. 1 D. J. Miller, in the center of a 20-acre tract, being in the W half of the NE quarter of section 28-7s-2w.

The second location for the new Cheneyville field in Rapides Parish was made by the Texas Co. No. 1 Well, 495 feet west and 550 feet north of Amerada Petroleum Corp. No. 1 Well, the discovery in section 53-1s-2e. Derrick material is being moved to location.

Texas Co. No. 1 State-Lake Mongoulais, a wildcat in St. Martin Parish, has attracted some attention due to a reported showing of oil encountered in a core from 6,908-17 feet. It is coring in sand with a slight odor of oil at 7,161 feet. Location is in section 10-10s-9e.

At St. Martinsville, St. Martin Parish, Tide Water Oil Co. No. 2 Smedes, southwest of the discovery well, is drilling in shale below 6,800 feet, which is several hundred feet lower than the discovery horizon. A showing of oil and gas is reported to have been encountered in a core from 6,226-30 feet. To the southwest, Coastal Plains Oil Corp. No. 1 A. L. Domengeaux is drilling in shale below 5,387 feet and will probably start coring for the 5,500-foot pay within the next few days.


126
104
R-6-E
Terrace Oil & Land Corp.
200 Arp. (172.8 Ac.)
Tide Water Oil Co.
"A"
282 Ac
2-26-37
68 Ac
42 Ac
1/2 Int. 57.98 Arp. "50 Ac"
100 Arp. "84 Ac."
58 Arp.
48.76 Ac.
58 Arp.
48.76 Ac.
58 Arp.
48.76 Ac.
44 Ac"
18
Simedes Bros. Inc. 282 Ac.
Tide Water 1/2 - 6-9-37
No 3 - Tr. 4
80 Arp.
Burton Hartley
Coastal Plains Oil Corp
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tested through perforated casing. Location is in the D. McCarthy Survey.

Anahuac Pools Linked

The north extension area of the Anahuac field, Chambers County, has apparently been linked with that of the south part of the field due to the showing made by Humble Oil & Refining Co. No. 1 Tyrell, located midway between the two areas, which topped the oil sand at 6,890 feet and is preparing to test at a total depth of 7,083 feet. Location is in section 52, H.&T.C. Survey. On the east side of the field the company's No. 2 M. Engels, in section 50, H.&T.C. Survey, has been completed at 7,085 feet for an initial production of 28 bbls. per hour through a one-quarter inch choke with tubing pressure 1,250 pounds and casing pressure 1,350 pounds. Due west in section 58, No. 10 Middleton was completed at 7,085 feet for an initial production of 26.78 bbls. per hour on a one-quarter inch choke with tubing pressure 1,075 pounds and casing pressure 1,050 pounds.

Turtle Bay

The Turtle Bay field, Chambers County, opened two weeks ago by Stanolind Oil & Gas Co., received two locations. They were made by Stanolind Oil & Gas Co. and are No. 1 Cooper heirs, 466 feet from south and east line of a 140-acre tract in the S. Burney Survey, due west of the discovery well, and No. 1 State, in the waters of Turtle Bay and 466 feet south and east from the southwest corner of the Middleton 120-acre tract, due south of the discovery well. No. 1 Middleton, the discovery well, has been pinched down and on the last 24 hours ending at 7 a.m. December 26, flowed 41 bbls. of pipe line oil through a 3/32-inch choke with tubing pressure 650 pounds and casing pressure 750 pounds.

Uncover Salt Water

The first production test made on Humble Oil & Refining Co. No. 6-A Maco Stewart, Dickinson field, Galveston County, and 3,000 feet south of the nearest production, resulted in salt water and the operators have plugged back to 8,775 feet and are waiting for cement to set. It was tested in the deep pay at 9,142 feet. Location is in the John Sellers Survey. The company's No. 1-B San Leon farm, an outpost test in the A. E. Edwards Survey, made a drill stem test from 8,030-71 feet and recovered 2,700 feet of salt water and is drilling below 8,300 feet.

At the South Houston field, Harris County, Stanolind Oil & Gas Co. completed Drilling District No. 27 at 4,622 feet for an initial production of 118 bbls. in 24 hours through a one-quarter inch choke with casing pressure 1,300 pounds. District No. 27, in Lot 8, Block 71, completed the latter part of November for a gas well at 3,963 feet, has been rigged up and will probably be deepened.

New Wells in Hastings

Stanolind Oil & Gas Co. marked up two completions and has three other wells due to be completed in the Hastings field, Brazoria County. No. 4 Drake, in the H.T.&B. Survey No. 36, was finaled at 5,880 feet for an initial production of 375 bbls. per day through a one-quarter inch choke. No. 4 Surface, in A.C.H.&B. Survey No. 2, made 589 bbls. per day through a one-quarter inch choke from a depth of 6,080 feet. No. 1 Berger, Survey No. 37, has apparently extended the field a few hundred feet southwest as it is bottomed in oil sand at 6,080 feet with 7-inch casing at 5,932 feet. This is the first well drilled in the survey and it is southwest of No. 1 Hutchinson. No. 3 Shaw cored oil sand to 6,081 feet, total depth, and is to be tested with 7-inch casing cemented at 5,944 feet. In the northern part of the field, No. 6 Sneed is bottomed in oil sand at 6,080 feet with 7-inch casing cemented at 6,009 feet. The company is moving in material for No. 3 Guido, Survey No. 36, 330 feet south and 330 feet east of the northwest corner of a 40-acre tract.

Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, Dec. 30. — Fair-sized oil wells and gassers marked the completions in the Lima and Central Ohio fields in the past week's reports together with a sprinkling of dry holes. Indiana and Kentucky field reports show both oil and gas completions.

LIMA FIELD

In Henry County, Ohio, Stoddard & Darke are drilling on the C. S. Shelley farm, section 7, Marion Township, and B. D. Snonby is drilling on the Curry heirs farm, section 6, Marion Township.

In Hancock County, Wonder Oil Co. is at a depth of 1,540 feet in a test on the Holland and Harold Wonder farm, section 27, Biglick Township.

In Allen County, Pease & Pease, trustees, are drilling No. 4 Nancy E. Leedy, section 14, Bath Township, and C. A. and F. J. Peavey are drilling No. 4 on the Mary E. Stelle farm, section 24, same township.

In Auglaize County, D. Schillinger No. 1 on the Schillinger farm, section 10, Noble Township, is dry.

In Hardin County, Robert Kirk & Co. No. 1 Leroy Wander, section 27, Big Lick Township, produced 5 bbls. initially at 1,302 feet.

In Seneca County, the Industrial Gas Co. No. 3 on the Lloyd Hoover farm, section 4, Hopewell, is a gas well at a depth of 476 feet. Harpester & Donnell are drilling No. 3 Nicholas Webber, section 34, Liberty Township. M. E. Keaser No. 17 H. Russell, section 17, Liberty Township, produced 2 bbls. at a depth of 1,260 feet.

In Wyandot County, Wood & Co. No. 1 Edward Orton, section 22, Pitt Township, is drilling. Cessna & Feasel are drilling No. 1 Thomas Bowman, section 22, same township.

In Ashland County, the Ohio Fuel Gas Co. No. 1 on the Irene Stackhous farm, section 10, Orange Township, is a gas well at a depth of 2,591 feet.

In Wayne County, the Kenova Oil & Gas Co. No. 1 on the Elmer Cunningham farm, section 19, East Union Township, is a dry hole.

Holmes County Completions

In Holmes County, Mehowa Oil & Gas Co. No. 2 Christ Young, section 10, Washington Township, is a gas well at a depth of 2,974 feet. Arkansas Fuel Co. No. 1 on the James F. Patterson farm, Lot 12, Monroe Township, produced 25 bbls. at a depth of 3,550 feet. Ohio Fuel Gas Co. is drilling No. 1 on the Nettie A. Martin farm, section 11, Mechanics Township, same county.

In Cuyahoga County, C. A. McMillan is drilling on the Fuhmeyer and Geisendorfer farm, section 24, Independence Township. The Ferro Enamel Co. was drilling No. 2 on its own property, on Lot 308, Newburg Township. William Dempsey has a location staked on the J. and A. Palmer Lot 13, Eaton Township.

Dry Holes in Richland County

In Richland County, Ohio Fuel Gas Co. No. 1 Lowman Garrett, section 17, Worthington Township, is a dry hole at 2,510 feet. J. B. Reed No. 2 on the Kenneth McConkie farm, section 14, Jefferson Township, same county, was dry and abandoned at 3,323 feet.

In Portage County, the Pawnee Corp.'s No. 1 on the Martha Rees farm, section 16, Paris Township, was dry and abandoned at 4,466 feet.

In Coshocton County, the Ohio Gas Light & Coke Co. No. 2 on the Lloyd Holderbaum farm, section 10, Mill Creek Township, was a gas well at a depth of 871 feet. Lyons & Muhlback No. 1 Della Fair & Co. was dry at 3,304 feet, and in Monroe Township. Pure Oil Co. is drilling No. 1 Ella Clark, section 14, Newcastle Township, Preston Oil & Gas Co. made a location for No. 2 William Frazee, section 3, same township. C. C. Moore is drilling No. 1 J. Lee Retilla, section 20, Jefferson Township. In Perry Township, Hulse-Kundtz, Inc., is drilling No. 3 Charles H. Lawson, section 17, and Murphy & Co. were drilling No. 2 Myers & Mosholder, section 15.

In Huron County, J. E. Ringler is drilling No. 1 F. and A. Verburg, Lot 40, Fitchville Township.

In Starke County, Ohio Fuel Gas Co. No. 1 John E. Boerner, section 9, Jackson Township, is a gas well at a depth of 4,339 feet. Same company is drilling No. 3 Eliza Harmont, section 27, same township. Wittmer Co. No. 1 C. T. Rohr, section 19, same township, is drilling.

In Tuscarawas County, Columbian Carbon Co. No. 1 Lawrence Scharr, Lot 1, is a gas well at 5,070 feet. Capital Drilling Co. No. 6 Stewart Asher, section 6, Washington Township, is a gas well at a depth of 3,733 feet.

In Scioto County, Bechelor & DeWitt were drilling No. 1 J. D. Shilling, section 32, Madison Township.

CENTRAL WEST FIELD

In Ashland County, Ohio Fuel Gas Co. No. 1 Irene Stackhouse, section 10, Orange Township, is a gas well at a depth of 2,591 feet. Same company has rig up for No. 2 J. E. Shopbell, section 20, same township.

In Wayne County, the Kenova Oil & Gas Co. No. 1 Elmer Cunningham, section 19, East Union Township, is a dry hole.

KENTUCKY FIELD

In Ohio County, the Kentucky Natural Gas Co. No. 1 J. L. Norris, in the Deanfield area, is a dry hole. Forter & Co. No. 4 Edwards heirs, in the same field, was dry. Teller & Co. No. 7 Orville Whitehouse, in the Webster area, produced 25 bbls. initially. Lowman & Co. No. 2 H. Evans produced 7 bbls. from the Jett sand. Stewart & Gealey No. 5 J. H. Roberts, in the Oak Pool, was a dry hole in the Barlow sand.

In Henderson County, the Chatham Oil Co. No. 1 J. T. Walker, in the Niagara Field, produced an initial of 10 bbls.

INDIANA FIELD

In Delaware County, Fred M. Crapo No. 1 on the Crapo farm, in Center Township, was a gas well.

In Martin County, Sage & Oliphant No. 2 Elijah Greenwood farm, section 36, Perry Township, is a gas producer.

In Perry County, Haney & Hollingsworth No. 1 on the Norman Jarbo farm, NE NW section 8, was dry and abandoned at 619 feet. Same parties are drilling No. 1 T. and M. Schwartz, section 9.

Canada's Gasoline Imports

OTTAWA, Ontario, Dec. 28. — Imports into Canada of natural casinghead, compression or absorption gasoline in October totaled 5,991,962 gallons valued at $422,529 compared with 4,236,835 gallons at $262,636 in September. Of the October imports, 3,411,863 gallons at $233,624 came from the United States and 2,580,099 gallons at $188,905 from Peru. The September figures included 1,771,984 gallons at $89,990 from the United States and 2,464,851 gallons at $172,646 from Peru.

Imports of gasoline lighter than .8235 gravity in October totaled 2,082,373 gallons valued at $164,843 compared with 2,377,135 gallons at $192,891 in September. Of these imports, 519,625 gallons at $33,207 in October and 520,000 gallons at $33,230 in September; the remainder in both months came from the United States and Alaska.

Exports of gasoline and naphtha from Canada in October amounted to 12,921 gallons valued at $1,599 compared with 399,992 gallons at $60,281 in September.

George Berry, of the land department of the Sinclair Prairie Oil Co., Houston, Tex., spent the holidays with his family and relatives in Oklahoma.

North Louisiana, Arkansas

By J. R. CRUMPTON

NEW WELL IN CASS COUNTY, TEXAS, SETS UP A PROBLEM

SHREVEPORT, La., Dec. 30.—R. W. Norton No. 1 Haywood, Priscilla Evans Survey, is the first producer in Cass County, Texas, an extension to the southwest of the Rodessa field opened in Caddo Parish, Louisiana. Initial production was 45 bbls. per hour through one-half inch choke on tubing from a total depth of 6,002 feet. Saturated lime was contacted at 5,962 feet, base of massive anhydrites logged at 5,648 feet and top of the Hill sand at 5,685 feet. Seven-inch casing was set at 5,935 feet and the well registered 800 pounds casing pressure and 900 pounds tubing pressure.

The new gusher is only a short distance inside the Cass County line and is about 2 miles west of the discovery well and is an extension of production practically one-half of a mile west.

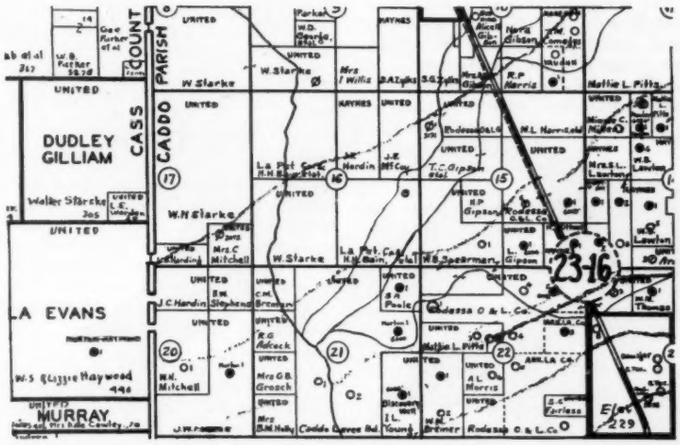
At this writing, the Texas Railroad Commission has not set an allowable for wells in that area. The minerals division of the Louisiana Conservation Commission set a daily allowable of 500 bbls. each for all wells on the Louisiana side of the Rodessa field during month of December. However, Standard Pipe Line Co. of Louisiana has fixed a maximum of 15,000 bbls. daily taken from the field, effective December 21. Norton No. 1 Haywood was the thirty-fourth producer from Oolitic lime in the Rodessa field.

The problem that now confronts the Texas Railroad Commission may become the most serious proration question yet confronted. In Texas the top allowable for even new pool openers is 150 bbls. per day.

If the Texas Railroad Commission attempts to permit producers on the Texas side of the Rodessa structure the same allowable as in the Louisiana portion, a strong protest from operators of new pool discoveries in other parts of this state would follow.

Three other good producers were completed in the hot spot north of the townsite of Rodessa. Haynes Production Co. No. 1 Mattie L. Pitts, 290 feet north and 264 feet west of SE cor. NE NW section 14-23-16, gauged 300 bbls. per hour on open flow through tubing with 500 pounds casing pressure and 350 pounds tubing pressure from a total depth of 6,065 feet. The subsea depth logged 5,774 feet. The same company's No. 4 Lawton, 290 feet south and 836 feet west of NE cor. SE NW section 14-23-16, had an initial open flow of 232 bbls. per hour through tubing from total depth of 6,035 feet, subsea depth of 5,775 feet. Pelican Oil & Gasoline Co. No. 6 Sexton, 330 feet south and east of NW cor. NE SE section 14-23-16, topped saturated lime at 5,978 feet, set 7-inch casing at 5,964 feet and was completed making 55 bbls. per hour through one-half inch choke on tubing from a total depth of 6,010 feet. Tubing pressure registered 1,350 pounds and casing pressure 1,850 pounds.

M. H. Marr and others No. 1 W. J. Hunter, section 13-23-16, an outpost test to the northeast, is drilling plug to test from a total depth of 6,040 feet. Top of saturation was logged in the test at 6,010 feet. Southwest of the field in Cass County, American Liberty Oil Co. No. 1 Rodgers, C. M. Robinson Survey, is arranging to drill plug to test. With the exception of



Production in the Rodessa field extended into Cass County, Texas, by R. W. Norton No. 1 Haywood, nearly 2 miles west of discovery

Lion Oil Refining Co. No. 1 J. M. Wynn, section 9-23-16, about 4 miles northeast of nearest production, all of the other drilling wells in Rodessa are within the proven areas. The Lion well is drilling below 3,000 feet, but no contracts have been obtained at this writing.

Bienville Parish

Lide, Greer & Marr No. 1 Davis Brothers Lumber Co., section 12-16-5, Bienville Parish, spudded in during the past week and set 16-inch surface casing at 500 feet. The wildcat is located about 6 miles southwest of the Lincoln Parish gasser near the town of Simmsboro and is in the center of a 14,000-acre block assembled before the completion of the discovery gasser in that area. Texas Seaboard Oil Co. No. 1 McGee, section 3-16-6, in the Bear Creek area of Bienville Parish, is ready to spud in a deep test located in a 9,000-acre block. Harry Bass who drilled a 9,000-foot hole for Tide Water-Seaboard at Cayuga is contractor on the test.

General Deep Sand Play

The North Louisiana basin continues to get a hot lease play over its entire area, practically every parish having from one to two wildcat tests staked to go to the upper Trinity, the Oolitic lime series of the Glen Rose, or to some of the lower Trinity sands. The Sugar Creek field in Claiborne Parish, Cotton Valley and Shongaloo areas in Webster Parish, and Sligo in Bossier Parish are all due for deep completions within the next few months. Ohio Oil Co. No. 1 R. L. Holloway, section 23-21-10, a proposed 10,000-foot test in the Cotton Valley field, is about ready to spud in. The test is being made by the company without any help from other leaseholders in the field and will be a "tight" well. The derrick, rig and other equipment is the most complete ever installed on a test in the North Louisiana area.

In Rapides Parish and about 5 miles east of Amerada Petroleum Co. No. 1 Well, discovery oiler, Pete Wiggins and H. H. Lawton have secured approximately 900 acres on which they are reported to be planning a test. The leases lie in sections 5, 6 and 8, Township 25, Range 3e, and section 32-1s-2e, Avoyelles Parish. Two new wildcats in Richland Parish spudded in during the past week. J. F. Morrisey No. 1 W. T. Jones, section 15-18-7e, about 5 miles north of the town of Rayville, set 10-inch surface at 176 feet. The test is located on a block of 13,000 acres. On a 10,000-acre block southwest of Rayville, A. H. Wray set 12-inch casing at 135 feet on his No. 1 Slocum in section 10-17-6. In Natchitoches Parish, about 4 miles north of Robeline, Ivan A. Allen and associates of Denver have assembled a block of several thousand acres in Township 9, Range 9, and propose to drill a 5,500-foot hole.

ARKANSAS

Joe Modisett No. 1 Red River Lumber Co., section 21-19-24, a proposed deep test in Lafayette County, seems hopelessly junked with 1,200 feet of drill stem lost in the hole at 5,316 feet. The crew has been fishing for the pipe for several weeks without results and the derrick will be skidded over and a new hole spudded. The well logged massive anhydrites at 5,270 feet. A deep test in Ouachita County, Benedum & Trees No. 1 Brighton, section 29-14-19, will probably be abandoned within the coming week unless a favorable sand is logged. At 5,197 feet, the crew encountered a hard granite formation, consuming eight rock bits in making 2 feet. Formation then changed to red shale and operators are drilling ahead at 5,212 feet.

In Columbia County, Magale & Elam No. 1 Garrett, section 13-17-20, a proposed Oolitic lime test, logged top of Nacatoch at 1,822 feet and is drilling below 2,600 feet. King Oil Corp. No. 1 G. W. Crank, section 19-16-25, Miller County, is drilling at 3,715 feet after a dry drill stem test from 3,630-35 feet. Boris Triponoff No. 1 W. Gibbons, section 27-8-18, Clarke County, is arranging to set a string of casing to test a reported gas show at 556 feet.

Crude Production

Estimated daily gross production all companies week ending December 27:

NORTH LOUISIANA

	Bbls.
Bellevue	455
Caddo light	3,980
Caddo heavy	2,320
Converse	1,240
Cotton Valley	350
DeSoto and Red River	1,320
Elm Grove	375
Haynesville	3,385
Holly	155
Homer	2,565
Pleasant Hill	170
Rodessa	16,825
Sarepta-Carterville	510
Urania	2,700
Zwolle	1,415
Total	37,765

SOUTH ARKANSAS

Champagnolle	1 905
El Dorado	2,155
Lisbon	300
Miller County	1,340
Nevada	865
Smackover light	2,225
Smackover heavy	17,880
Stephens	630
Urbana	2,165
Total	29,495

Wood Gas for Motor Fuel

VANCOUVER, British Columbia, Dec. 28.—The Forest Products Laboratory Service of Canada has concluded a series of experiments with wood gas as motor fuel, with a view to providing cheap fuel for motors in remote districts. A series of test runs have been made, using a truck equipped with a gas-producing plant. The latter consists of a sealed box, burning charcoal, attached to the running board of the truck. A special fixture on the engine draws off the wood gas formed in the box, mixes it with air, and feeds it to the cylinders. A report on the experiments is being prepared for the federal government.

Eastern Field Report

By STAFF CORRESPONDENT

ORISKANY SAND YIELDS BIG GAS WELL IN WEST VIRGINIA

PITTSBURGH, Pa., Dec. 30.—The largest Oriskany sand gas well so far completed in the lower Eastern fields was brought in by the Columbian Carbon Co. as its second test on the G. and D. Copenhaver farm in Elk district, Kanawha County, West Virginia. Without being shot, it gauges 8,125,000 feet per day. It is located on the Little Sandy Creek approximately 1,600 feet northwest of No. 1 and appears to be about 7 feet higher on the Milliken anticline, figuring subsea elevations.

In this test, the Big Lime was at 1,456-1,621 feet; the Big Injun sand at 1,621-46 feet; the Berea had thinned out; the Corniferous lime was at 4,799-4,914 feet; the top of the Oriskany sand at 4,914 feet, with gas showing at 4,928 feet and total depth 4,931 feet.

The Columbian company is drilling No. 4 on the same farm which has now reached a depth of 950 feet and also has the rig standing for the No. 3. West of this farm, this company has spudded in and started drilling a test on the W. H. Baxter and others lease in Elk district. In this district, V. C. Smith and others are still deepening the test on the island at the mouth of Coopers Creek, the Matheny, Wertz and others lease.

Loudin District

In Loudin district, Godfrey L. Cabot, Inc., drilled the deep test on the A. F. Vorholt farm to a total depth of 4,971 feet, through the Oriskany sand, and is now getting ready to plug it as a dry hole. This operator has shut down at 1,264 feet on the Kanawha Land Co. second test with the tools stuck in the hole. The Columbian Carbon Co. has reached a depth of 4,650 feet on the S. H. Hoge farm. H. C. Zogg and others are down 1,500 feet in a test on the R. H. Dunn farm. United Carbon Co. has made a location for a test on the C. C. Dickinson farm, but it is not yet announced whether it will be drilled to the deeper horizons.

In Union district, Godfrey L. Cabot, Inc., shut down the test on the Alberta Putney farm after drilling through the Oriskany sand to a depth of 4,900 feet. It was shot with 100 quarts but it is dry, with only a small showing of gas.

In Malden district, the Columbian Carbon Co. reached 4,601 feet on the M. J. Dearing heirs farm and ran 6⅝-inch casing. The Godfrey L. Cabot, Inc., test on the N. B. Tompkins farm is at 1,727 feet; No. 7 on the William B. Tompkins heirs at 710 feet; the test on the W. D. Lewis farm fishing at 1,870 feet and the No. 9 on the Campbells Creek Coal Co. fishing at 1,265 feet. All but one bit was recovered from this hole.

In Poca district, W. O. Zeibold and others set casing at 1,730 feet in the scheduled deep test on the D. A. Griffith farm and resumed drilling. The depth is now 2,200 feet.

Completions

Twenty-six operations were completed in the lower Eastern fields during the past week. Eight were dry holes, 14 were gas wells, and four were small producers with a combined initial production of 12 bbls.

WESTERN PENNSYLVANIA

The deep test of the Carnegie Natural Gas Co. on the Gertrude Scott farm in South Shenango Township, Crawford County, Pennsylvania, is shut down until after the first of the year at 4,073 feet. After running 5⅞-inch casing to 4,054 feet and drilling slightly deeper, the hole was full of water. The Clinton sand is expected at 4,300 feet.

In the John Galey and others test on the William Graham farm in South Beaver Township, Beaver County, it was decided to cement off the bottom 3 feet, from which most of the water has intruded. The cement will be placed through the tubing preceded and followed by water pressure to keep the gas killed. The total depth of this well is 4,551½ feet.

On Chestnut Ridge, William Snee and others reached a depth of 5,365 feet in the test on the Summit Hotel property in South Union Township, Fayette County. After a holiday shut down, drilling has been resumed.

Southwestern Counties

In Greene County, Lewis & Co. are down 1,380 feet on the Samuel Chess farm in Richhill Township. In Morris Township, the Penn Ohio Oil & Gas Co. is drilling at 1,810 feet on the Frank Toland farm. The top of the Big Injun sand was at 1,795 feet.

In Gilmore Township, Greene County, J. I. Eddy and others are at 1,920 feet in No. 3 on the Charles Fordyce farm. S. B. Clovis is shut down after cementing at 2,140 feet on the Charles B. Fordyce farm.

In Springhill Township, Greene County, James H. Null, agent, is drilling at 1,400 feet on the David Null farm. The Pittsburgh Coal was at 1,119 feet. The Peoples Natural Gas Co. is deepening No. 1,962 Headlee from 1,462 feet and was drilling at 1,650 feet.

In Amwell Township, Washington County, Moore-Orrill & Co. are down 1,300 feet in No. 6 G. L. Walker. The New Oil & Gas Co. reached 2,435 feet on the Clarissa Ramsey farm and shut down, and was drilling on the George Thomas farm at 1,394 feet.

In South Franklin Township, Washington County, E. H. and J. B. Tague have reached a depth of 2,315 feet on the Hiram McClain farm. William Bungard and others resumed drilling on the Clyde Hinerman farm below 490 feet. H. G. Whitfield is drilling at 500 feet on the Judson Iams farm. The Carnegie Natural Gas Co. has started drilling the test on the John Dodd farm down to the second pay in the Fifth sand. The First pay was at 2,859-2,860 feet.

In East Findley Township, Washington County, Parkinson & Dague are drilling at 1,425 feet on the Chris Ealy farm, a test. In West Findley Township, the Natural Gas Co. of West Virginia is drilling at 2,200 feet on the J. W. Earnest farm.

In Cecil Township, Washington County, G. N. Glass has started drilling a test on the F. W. McEween farm which is as yet only 150 feet deep.

WEST VIRGINIA

One well was completed in West Virginia during the week. In Roane County, F. F. McIntosh No. 3 McIntosh & Norman, in the Curtis district, was finished in Salt sand at a total depth of 1,846 feet. It is showing for 5 bbls. a day. The top of the Salt sand was at 1,791 feet, with the oil at 1,816-1,844 feet.

Gas Wells

A very good gas well was completed in Cabell County. In the McComas district, R. H. Adkins' test on the R. J. Gill estate was drilled to 1,331 feet. It gauges 5,500,000 feet a day. Lime was at 1,103-1,263 feet; 6⅝-inch casing was run to 1,203 feet; there was gas at 1,210 feet; the Big Injun sand was at 1,325 feet and gas struck at 1,330 feet until the forced shutdown at 1,331 feet. This lease is just north of the H. S. Fraley farm on which five wells have been drilled each showing for over a million feet a day.

In Boone County, the Pure Oil Co. completed three wells in Sherman district. On the Robson and Prichard lease, this company completed No. 9 in the Weir sand at a depth of 3,088 feet, and the well gauged 1,344,400 feet a day. On the Federal Coal Co. lease, the Nos. 77 and 78 were completed. The No. 77 shows 150,720 feet of gas a day from the Weir sand at a depth of 3,109 feet and the No. 78 shows 1,718,000 feet a day from a depth of 1,830 feet.

In Washington district, Boone County, the Boone County Coal Co. completed No. 5 fee in the Berea sand at a depth of 2,937 feet. It is a gas well gauging 1,625,000 feet a day.

In Kanawha County, the United Fuel Gas Co. completed No. 4,568 S. L. Casey and others in Big Sandy district at a depth of 1,679 feet. It is a gas well gauging 232,000 feet a day. In Jefferson district, the Ten Mile Oil & Gas Co. completed No. 18 H. C. Dickinson at 2,351 feet. It has a volume of 85,620 feet a day.

In Marshall County, Cameron Light & Heat Co. completed No. 5 John Davis in Liberty district as a gas well at 2,165 feet. Pittsburgh Coal was placed at 896 feet.

In Pleasants County, Ward and others drilled No. 21 George Varner in the McKim district, through the Injun sand to 1,717 feet. It was dry in all formations.

In Ritchie County, Samuel M. Summers drilled a second test on the Ida E. Jones farm in Murphy district through the Injun sand to a depth of 2,125 feet. It was a dry hole.

In Roane County, L. C. Young and others completed a well on the A. N. Kee 100-acre tract in Harper district in the Salt sand at a total depth of 1,746 feet. It is a gas well gauging 430,000 feet a day without a shot. The top of the Salt sand was at 1,727 feet with gas showing at 1,729-39 feet.

In Tyler County, Lowther & Shuman drilled a test on the J. M. Ash farm through the Injun sand to a depth of 2,118 feet. It was dry and is located in Meade district.

In Wetzel County, there were two completions and a dry hole. Manufacturers Light & Heat Co. completed a good gas well on the Valentine Foland farm in Proctor district. It was completed in the Maxon sand, depth 2,153 feet, and gauges 2,000,000 feet a day. In the same district on the Thelma Allen farm, this company completed the test in the Gordon tray sand as a gas well gauging 100,000 feet a day. The depth was 3,014 feet. In this district, the Columbian Carbon Co. drilled the test on the C. N. Adams farm through the Gordon sand to a depth of 2,787 feet and it was dry and is being abandoned.

Other Operations

In Boone County, the Owens Illinois Glass Co. is moving in the tools to start No. 3 J. G. Roberts, in Washington district. In this district, the Pond Fork Oil & Gas Co. is drilling No. 22 Cole & Crane deeper and has reached 4,376 feet. In Peytonia district, the Owens Illinois Glass Co. has started drilling No. 25 on the Peytonia Coal Land Co. lease. In Sherman district, Pure Oil Co. is rigging up No. 79 on the Federal Coal Co. tract and No. 41 on the Lafollette, Robson and Prichard lease.

In Cabell County, the Kanawha West Virginia Gas Co. is spudding on the Albert Keenan and W. E. Farley farm in McComas district. The Empire State Gas Co. has started drilling on the Fay Savage farm.

In Calhoun County, K. M. Hunt and others have rig completed on the Brad Gainer farm in Sherman district. In Lee district, Lyle S. Ayers has a rig up on the Ray Parsons farm.

In Clay County, the Virginian Gasoline & Oil Co. has started drilling No. 4,591 on the Brown, Swan, Goshorn & Geary tract in Henry dis-

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trict and is rigging up Nos. 4,592 and 4,593. The Elk River Gas Co. is down 1,750 feet in the test on the Thompson Land & Coal Co. lease and 1,685 feet on the T. W. Keith farm, both in Pleasant district.

In Lincoln County, the Kanawha Gas & Utilities Co. is in the sand in No. 3 George Black in Carroll district with a showing of gas at 2,420 feet. In Logan County, Zeibold, Rummell and others are drilling on the George Nichols farm in Logan district at a depth of 655 feet.

In Ritchie County, C. Mathey and others are drilling No. 3 F. R. and Roxie Ball in Clay district. In Murphy district, Smith & Hendershot are drilling a test on the U. G. Bonnett farm. Pyles and others have a rig standing for a test on the M. V. Haught farm.

In Roane County, L. L. Reed and others have a rig standing for a test on the C. G. Hinzman farm in Harper district. In Curtis district, the Henderson Oil Co. is rigging up the second test on the C. J. Burdette farm and H. H. Staats is rigging up the No. 3 on the R. R. Petty farm.

In Wetzel County, C. B. Lewis and others are drilling on the Josephus Clark heirs farm in Magnolia district. In Greene district, O. T. Midcap and others are drilling on the Henry Elson farm.

SOUTHEAST OHIO

In Belmont County, Ohio, Union Gasoline & Oil Corp. completed a test on the William Stobbs farm, NE quarter section 26, Richland Township, in the Berea sand, at a depth of 1,893 feet. It produced only a half barrel the first day after shot.

In Medina County, E. R. Edson & Son Co. drilled No. 46 M. A. and Eva Franks, Tract 16, Lot 2, Chatham Township, through the Berea grit to a depth of 545 feet. It was dry. A deep test also proved dry. In section 13, Granger Township, the Ohio Fuel Gas Co. drilled a test on the Anna Crocker farm to a total depth of 3,417 feet without commercial pay.

In Monroe County, J. C. Corner and others completed No. 4 Platt, NW quarter section 18, Washington Township. It was completed in the Injun sand, depth 1,579 feet, and produced 5 bbls. the first day, naturally. In the SW quarter section 24 of this township, J. F. Graham and others completed a test on the Homer Adams farm in the Berea grit at a depth of 2,055 feet. It is a gas well gauging 160,000 feet a day. In the SW quarter section 2, Bethel Township, F. O. Parks completed a test on the Louisa Schneeberger farm in the Injun sand at a depth of 1,502 feet. It is a light gas well.

In Noble County, C. A. Heisler and others completed a well on the H. B. Miller farm, NE quarter section 23, Elk Township, in the Germantown sand at a depth of 933 feet. After the shot it was estimated good for about 1 bbl. a day.

Completions and Operations in New York-Pennsylvania Gas Field

By R. C. CONINE

COUDERSPORT, Pa., Dec. 30.—No completions were reported in the Pennsylvania and adjacent New York Oriskany gas belt in the week ending December 27. In Tioga County, P. P. & L. Co. was rigging up on the Joe Trimmer farm, Clymer Township. Godfrey L. Cabot was digging cellar on the H. Decker farm, Westfield Township, and P. P. & L. Co. was digging cellar on the Francis Johnson farm, Clymer Township.

Pennsylvania Operations

In Potter County Godfrey L. Cabot was drilling at 5,900 feet on the A. G. Lyman farm, Ulysses Township. Same party was drilling at 3,400 feet on the Duke estate proptrey, Genesee Township. Miller Ake was drilling at 1,850 feet on the Walter Burrell farm, same township. Penn-York Gas Co. was idle at its location on the Theodore Cobb farm, same township. Hanley & Bird was drilling at 4,810 feet on the Burd No. 2, Allegany Township. Potter Development Co. and others were drilling at 2,137 feet on the Walter Burrell farm, Genesee Township.

New York Operations

Belmont Quadrangle Development Co. was shut down at 4,510 feet on the C. R. Regan farm, Alma Township, Allegany County. Same company was rigging up on the Thomas Burns farm, same township and county. Bayless and others were shut down at 2,230 feet on the H. Behrens farm, Allen Township, same county. Schrack and others were drilling at 3,710 feet on the Lewis & Knox property, Alma Township, same county. Becker and others were shut down at 310 feet on the No. 2 Burns, same township. Godfrey L. Cabot was drilling at 1,400 feet on the Gillette farm, Amity Township, same county. Wyoga Oil & Gas Co. was drilling at 1,750 feet on the Henry Knox farm, Willing Township, same county. Wittmer Oil & Gas Co. was drilling at 2,200 feet on the Snyder farm, Angelica Township, same county. Same company was casing at 4,452 feet on the William Ackley farm, Greenwood Township, Steuben County.

Utica Natural Gas Co. was shut down at 875 feet on the William Grimm farm, Western Township, Oneida County. Property Shares was drilling at 950 feet on the R. Skinner farm, Westmoreland Township, same county. Wyoga Oil & Gas Co. was bailing water at 3,750 feet on the Estee farm, Charlotte Township, Chautauqua County. Belmont Quadrangle Development Co. was drilling at 2,352 feet on the Percy Curtis farm, Leon Township, Cattaraugus County.

Kansas Developments

SCHOENCHEN POOL IN ELLIS COUNTY FINDS SECOND PAY

By
DAL DALRYMPLE

A second producing horizon in the new Schoenchen pool of southern Ellis County, Kansas, was opened when Tom Palmer and Storm King Oil Co. No. 2 Ruder, NW NW NE section 17-15-18w, found rich pay in Siliceous lime, after casing off a showing of oil in Oswald lime, original producing zone for the area. The new well established a potential production of 1,320 bbls. of oil daily. Tom Palmer and Storm King Oil Co. No. 1 Ruder, SE NE NW section 17-15-18w, discovery well in the Schoenchen pool, found Oswald lime at 3,243-3,440 feet, total depth; acidized and pumped 818 bbls. of oil in 24 hours. Originally, it had Oswald at 3,243 to 3,429 feet, old total depth, and produced 499 bbls. of oil in 24 hours last August 7.

Skelly Oil Co., Empire Oil & Gas Co. and Gypsy Oil Co. No. 1 Gilchrist-Community, C SE section 7-28-11w, Pratt County wildcat, 6 miles southwest of the Cunningham pool, one of the deepest tests to be drilled in that section of Kansas, encountered water in Siliceous lime and was shut down for orders. It had Viola lime at 4,227-4,321 feet, producing 1,500,000 feet of gas. Wilcox sand was found at 4,340 feet, gas increasing to 2,000,000 feet. It sprayed oil at 4,342 feet and was shut in for seven hours. When opened, it sprayed at the rate of 5 bbls. of oil and 5 bbls. of water an hour. Siliceous lime was topped at 4,435 feet, total depth, water increased to 10 bbls. an hour and it was shut down. The nearest production is in the Cunningham pool to the northeast is from Kansas City lime.

Russell County

Location has been staked for a second test in the new Oswald lime pool recently opened in southwestern Russell County by Central Petroleum Co., with its No. 1 Boxberger, NW cor. section 36-15-15w, which was completed for a potential of 884 bbls. of oil. The new location offsets the discovery well on the west. It is the Central Petroleum Co. No. 1 Boxberger "B," NE cor. section 35-15-15w.

Completions in Russell County included two producers and two dry holes. Skelly Oil Co. No. 2 Gurney, SW SE SW section 23-14-14w, in the Gurney pool, encountered Oswald lime at 2,958 feet; total depth 3,034 feet. It was acidized with 5,000 gallons and completed for a potential production of 212 bbls. of oil.

Sinclair Prairie Oil Co. No. 2 Sellens, NW NW NE section 35-15-13w, in the Sellens pool, had pay at 2,868-75 feet; Oswald lime at 3,060 feet; Siliceous lime at 3,356 feet; a hole full of water at 3,361 feet, total depth; plugged back to 2,879 feet and produced 229 bbls. of oil and 200 bbls. of water. Production was from the Topeka lime at 2,865-79 feet.

Murfin and others No. 1 Gorham estate, NE NE SE section 29-14-15w, wildcat south of the Gorham pool, found Siliceous lime at 3,282 feet, had a hole full of water at 3,313 feet, total depth, and was dry and abandoned. Oswald lime was topped at 3,020 feet, and oil showed at 3,090-95 feet.

Hartman & Blair No. 1 Cook, NE NE NE section 26-13-15w, in western Russell County, was dry and abandoned at 3,331½ feet. Oswald lime was topped at 3,057 feet; Siliceous lime at 3,317 feet. Both oil and water showed at 3,330 feet. Before abandoning, it produced 110 bbls. of oil and 54 bbls. of water in the first 24 hours and 130 bbls. of oil and 35 bbls. of water in the next 24 hours.

Russell County first reports follow: Hartman & Blair No. 1 McAllister, SW SW SE section 24-13-15w, wildcat, moving in material; No. 1 Boxberger "B," NE SE SW section 5-14-14w, wildcat, building rig; Signal Oil Co. No. 2 Weeks, SW SW NW section 34-15-13w, in the Eichman pool, a rig; and the new Central Petroleum Co. well in section 35-15-15w.

Phillips Petroleum Co. and Indian Territory Illuminating Oil Co. No. 1 Wineteer, SW SE section 19-13-14w, was drilling cement plugs, and 1,200 feet of oil had risen in the hole in eight hours. Total depth was 3,018 feet, with 8-inch casing set at 2,972 feet. Same companies No. 1 Jellisch, NE NE NW section 30-13s-14w, pumped 276 bbls. of oil but had not been officially tested. Eight-inch casing was set at 3,279 feet.

Signal Oil Co. No. 1 Berry, SE SE NE section 33-15s-13w, had 3,000 feet of oil in the hole at a total depth of 3,336 feet. Six-inch casing was set at 3,333 feet. It had not been tested.

Skelly Oil Co. No. 1 Figgins, NW NW SW section 34-15-13w, had the Siliceous lime at 3,335 to 3,337 feet, total depth, and 2,000 feet of oil rose in the hole in 12 hours. Six-inch casing was set at 3,336 feet. There had been no test.

Rice and Barton

There were two completions on the Barton County side of the Steckel pool. Lebow and Bennett No. 1 Steckel, NE NE SW section 1-20-11w, on the southwestern edge of the pool and north of Isern, topped Siliceous lime at 3,285 feet; pay at 3,304-14 feet; 1,100 feet of oil in the hole at 3,325 feet; encountered salt water at a total depth of 3,327 feet; plugged back to 3,304 feet; acidized with 1,000 gallons and then 6,000 gallons; pumped 297 bbls. of oil and 35 bbls. of water.

Mid-Continent Petroleum Corp. No. 1 Matzek, SE SE SE section 25-19-11w, extended the pool one-half mile northwest. It had Kansas City lime at 3,010 feet; Siliceous lime at 3,280 feet; saturation at 3,282-86 feet; total depth 3,298½ feet. After acidizing, it made 820 bbls. on potential test. No new work was started in Barton County.

Lario Oil Co. No. 1 Rehme, NE NE SW section 15-19s-11w, had 250 feet of oil in the hole at 3,378 feet, from Siliceous lime topped at 3,348 feet, but had not been tested.

C. B. Davis and Gypsy Oil Co. No. 2 Steckel, NE NW SE section 1-20-11w, was cleaning out after a shot with 80 quarts. Total depth is 3,321 feet.

Gypsy Oil Co. No. 1 Zahorsky, SE SE SE section 14-20-11w, bottomed at 3,303 feet, swabbed 22 bbls. of oil in 18 hours. It had Siliceous lime at 3,274-79 feet.

In the Chase pool, Rice County, Saco Oil Co. and Gypsy Oil Co. No. 1 Foote, NW SE NE section 7-20-9w, produced 1,152 bbls. of oil on a potential test. It was completed in Siliceous lime at 3,279 feet; oil at 3,281 feet; total depth 3,289 feet.

In the north part of the Beyer pool, north of Chase, Shell Petroleum Corp. and others completed No. 1 Sherman "A" Community, SE SE NW section 16-19-9w. It produced 137 bbls. of oil on a potential test. Kansas City lime was found at 2,862 feet; conglomerate, 3,152 feet; Siliceous lime at 3,222-32 feet. It was drilled to a total depth of 3,243 feet and acidized.

National Refining Co. and others No. 3 Reese, SE NW SW section 16-19-9w, in the same area, produced 177 bbls. of oil in 24 hours, after deepening to 3,236 feet, total depth, and acidizing. It had Siliceous lime at 3,215-26 feet; was acidized and produced 136 bbls. of oil in 24 hours before deepening.

First reports for Rice County follow: Gypsy Oil Co. No. 5 Steckel, C W half SW NW section 31-19-10w, rig; Grattan and others No. 1 Williams, SW SW NW section 17-18-7w, wildcat, cellar; Roy Ramsey No. 4 Hilton, SE SW SW section 6-20-9w, rig; Sinclair Prairie Oil Co. No. 4 Sharp, SW NE NE section 7-20-9w, moving in material.

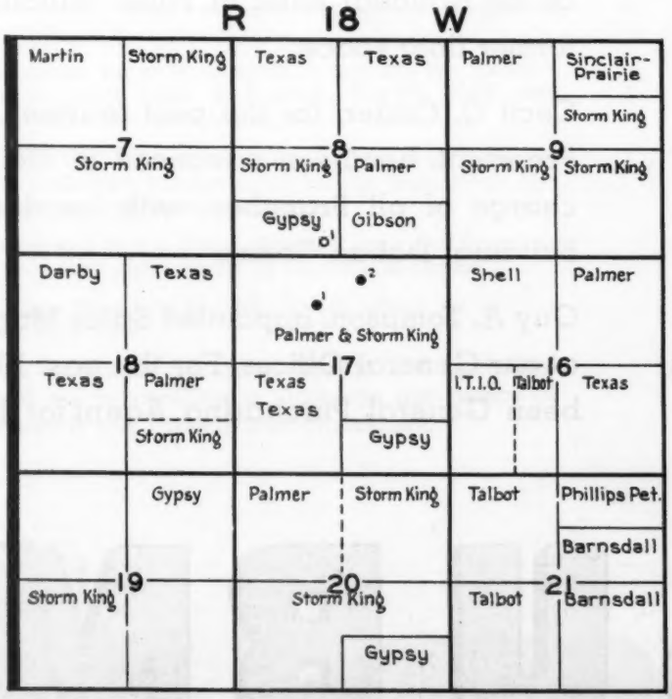
Slick, Pryor & Lockhart and others No. 2 Habiger, NW NW SW section 27-18s-10w, in the Orth area of northwestern Rice County, had 1,200 feet of oil in the hole in 12 hours at 3,196-97 feet, total depth. No test had been made.

Harvey County

Work was started at one location in Harvey County. Shell Petroleum Corp. No. 1 Dierkson, SE SE SW section 5-22-3w, in the Nikkel pool, was a rig.

Reno County

Operations at two locations were started in Reno County. Olson Drilling Co. and Shell Petroleum Corp. No. 3 Fast, C NW NE section 25-23-4w, in the Burrton field, was a rig. Texas Co. No. 2 Collins, NE NE SE section



Recently opened pool in Ellis County, with two wells already shows paying production from Oswald and Siliceous lime, respectively

Expansion

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General Offices, Tulsa, Oklahoma, now located on the 6th floor of the National Bank of Tulsa Building, occupying double the former floor space.

Cecil C. Crider, for the past fourteen years Assistant to the President, has been advanced to Executive Vice President in charge of all Branches, with headquarters in the Magnolia Building, Dallas, Texas.

Guy A. Tompson, appointed Sales Manager, with headquarters at our General Offices. For the past 18 years Mr. Tompson has been General Purchasing Agent for the Empire Companies.

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HOUSTON: To serve the Gulf Coast and surrounding territory, we have made plans for the immediate construction of a Plant occupying a large Industrial Tract and will be equipped with new Landis API Pipe Threading Machinery and other modern equipment at an expenditure in excess of $100,000.00.

In addition to the very able representation we have assigned to manage the Houston District, we will carry a large and complete stock of Republic Electric Weld and Pittsburgh Seamless Casing, Tubing, Drill Pipe and Line Pipe.

OKLAHOMA CITY AND SEMINOLE: Equipment at these Branches is being replaced with new Landis API Pipe Threading Machinery to handle from 2" to 16" inclusive and representing an expenditure of about $35,000.00.

WICHITA: A New District Office located in the Union National Bank Building, has been established to better serve the increased development in the State of Kansas.

RUSSELL: We have established a new Branch in Russell, Kansas where we carry a complete stock of casing, tubing and line pipe.

This expansion program is in line with our faith in the Oil and Gas Industry and we are happy to be in position to maintain our policy of always endeavoring to better serve our friends and customers.

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	Borger
	Hebbronville
KANSAS	McPherson
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17-24-4w, in the Stone area, a cellar.

Sinclair Prairie Oil Co. No. 1 Seedle, SE SE NE section 17-24-4w, in eastern Reno County, was bottomed at 3,379 feet and had gas estimated at 25,000,000 to 30,000,000 feet, with no oil. It had showings of oil up the hole.

Olson Drilling Co. and others No. 1 Krantz, NE NE SE section 13-25-5w, was drilling below 3,710 feet with 700 feet of water in the hole.

Greenwood County

Ward McGinnis No. 2 Thrall, NE SE NE section 17-24-12, in the Hamilton pool, Greenwood County, was dry and abandoned in Mississippi lime found at 1,798-1,840 feet, total depth.

McIntire & Sherman No. 1 Aagard, SW SE NE section 23-24-9e, in the Thrall area, was cleaning out after a shot. It had sand at 2,194-2,220 feet, total depth, with 1,100 feet of oil in the hole.

Ellsworth County

In the South Lorraine area, Ellsworth County, Carter Oil Co. and others No. 4 Teubner, C NW section 26-17-9w, was a rotary rig. In the Heiken pool, Smith & Ash and others No. 3 Heiken "A," NE NE NW section 25-17-10, an old well deepened from 3,298 feet to 3,343 feet, total depth, was dry and abandoned.

Texas Co. No. 7 Dees, NW SE NW section 23-17-9w, was shot with 30 quarts at 3,185-97 feet and swabbed 55 bbls. of oil in four hours. Total depth is 3,197 feet. It previously had made 163 bbls. of oil and 15 bbls. of water in 24 hours after acidizing.

Phillips Petroleum Co. No. 5 Melchert, SE SW NE section 23-17-9w, in the Lorraine area, had a potential production of 654 bbls. of oil and may be acidized. It had the pay at 3,204-05½ feet, and total depth is 3,206 feet.

Ellis County

Two wells were completed in Ellis County. Tom Palmer and Storm King Oil Co. No. 2 Carl Ruder, NW NW NE section 17-15-18w, topped Oswald lime at 3,245 feet; Siliceous lime at 3,572 feet; total depth 3,585 feet, where it had 2,800 feet of oil in the hole and produced 1 bbl. of water an hour. It was plugged back to 3,583 feet, acidized, and on potential test produced 1,320 bbls. of oil, estimated.

Twin Drilling Co. No. 1 Goetz, SW SW SE section 3-14-17w, topped Oswald lime at 3,273 feet; pay at 3,298-3,302 feet; total depth 3,303½ feet; produced 214 bbls. of oil in 24 hours; acidized with 6,000 gallons; produced 928 bbls. in 24 hours on a potential test and was completed.

Estimated Production

Estimated daily average production of Kansas for the week ending December 28 and for the preceding week follows:

	Barrels	
	Dec. 28	Dec. 21
Oxford City	6,875	6,700
Burrton	19,100	19,150
Ritz-Canton	8,025	7,600
Hollow-Nikkell	5,225	5,600
Voshell	3,800	3,925
Ellsworth County:		
Lorraine-So. Lorraine	7,125	8,550
Other pools	1,627	1,930
Rice and Barton Counties:		
Chase	11,950	10,700
Raymond	2,650	2,525
Steckel-Isern	5,000	4,540
Keesling	2,170	2,180
Miscellaneous Rice	2,960	3,868
Miscellaneous Barton	1,263	1,465
Russell County:		
Fairport	2,870	3,160
Gorham	3,830	3,720
Russell	2,405	3,201
Other pools	2,765	2,939
Sedgwick:		
Valley Center	1,380	1,430
Greenwich	1,420	1,520
Robbins	1,790	1,885
Eastborough	996	980
Other pools	684	625
Ellis County	566	494
Kingman County	750	840
Stafford County	2,110	1,709
Greenwood County	10,750	10,900
Butler County	17,750	17,800
Other fields	18,440	18,304
Total	146,250	148,250

McPherson County

Rosenthal and others No. 3 Johnson. NE SE SE section 30-18-2w, in the McPherson pool, McPherson County, topped Kansas City lime at 2,304 feet; total depth 2,326 feet. It was acidized, and produced 115 bbls. of oil on a potential test, four-day average; completed.

Shell Petroleum Corp. No. 4 Hill, CSL SE NE NE section 10-19-2w, in the Ritz-Canton field, found Viola lime at 3,402-09 feet; plugged back to 3,406 feet; showed oil and water; plugged back to 2,988 feet; perforated casing at 2,935-60 feet; produced 120 bbls. of oil and 200 bbls. of water on potential test.

Continental Oil Co. No. 1 Jones, SE SE SE section 31-21-1w, in the Garber area of southeastern McPherson County, old total depth of 3,345 feet, plugged back to 3,308 feet, was acidized and swabbed 49 bbls. of oil in eight hours, cutting 50 per cent water.

Stafford County

Stanolind Oil & Gas Co. No. 1 Spangenberg, NW NW NW section 29-22-11w, Stafford County, had Siliceous lime at 3,580-87 feet, set 7-inch casing at 3,580 feet, and 600 feet of oil rose in the hole at 3,600 feet. It had not been tested.

Rush County

Aylward and others No. 1 Mohr, C NW section 13-18-16w, is the newest completion in the Otis gas field in eastern Rush County. It had Kansas City lime at 3,225 feet; sand at 3,493 feet; total depth 3,523 feet, and produced 38,500,000 feet of gas.

Schermerhorn Oil Co. and others No. 1 Eitel "B," C SW section 14-18-16w, new test in the field, was drilling below 342 feet.

Olson Drilling Co. No. 1 Schmidt, C SE section 4-18-16w, north of the Otis gas field in eastern Rush County, plugged back to 3,518 feet, was shot with 40 quarts and then 60 quarts, and gauged 250,000 feet of gas. Old total depth at 3,546½ feet, in granite, topped at 3,546 feet. La Motte sand lay at 3,513-15 feet.

Butler County

Blankenship No. 1 Piper, NW NW SW section 17-29-4, was the only completion in Butler County. Kansas City lime was topped at 1,846 feet; total depth 1,909 feet. After acidizing it produced 50 bbls. of oil and 50 bbls. of water.

First reports on new work in Butler County included H. B. Garden and others No. 1-B Brenner, SE SW SW section 30-24-4, in the Potwin area, moving in material; National Refining Co. No. 1 McCullough, NE NE SW section 1-28-6, wildcat east of the Kramer pool, building rig.

Western Kansas Oil & Refining Co. No. 1-A Furman, NW SE SW section 8-23-4, set 6-inch casing at 2,031 feet, drilled to 2,085 feet and 400 feet of oil rose in the hole in one hour. No test had been made.

Kingman County

Another producer was completed in the Cunningham pool of Kingman County. Skelly Oil Co. No. 2 S. Miles, NW NW SE section 30-27-10w, topped Kansas City lime at 3,407 feet; total depth 3,466 feet; was acidized; on potential test produced 136 bbls. of oil, cutting 29 per cent water in the last hour.

Cowley County

Lloyd, Frost and Study No. 1 McKinley, NE NW NE section 33-31-3e, east of the Churchill pool, made a potential production of 384 bbls. of oil, and may acidize.

Sumner County

Stanley & Jarvis and others No. 1 Scroggin, NE SW NE section 14-32-2e, was completed. It produced 80 bbls. of oil in 12 hours at a total depth of 2,956 feet, after making 15 bbls. of oil in the first hour after acidizing.

Carlock, Rosenthal and others No. 1-A Wenrich, NE NW SW section 23-32-2e, at a total depth of 3,015 feet, swabbed 12 bbls. of oil per hour for six hours.

There was no new work started in the county.

Derby Oil Co. No. 1 Reitz, NE NW SW section 25-31-2, in the Churchill pool, was acidized with 4,000 gallons but had not been tested. Plugged back depth was 2,702 feet.

Amerada Petroleum Corp. and Sunray Oil Co. No. 8 Gassoway, C W half SE SW section 14-32-2e, in the Oxford pool, an old well deepened, had Kansas City lime at 2,432-35 feet and swabbed 27 bbls. of oil in 4 hours and 45 minutes.

Shell Petroleum Corp. No. 3 Emrich, SE SW NE section 14-32-2, pumped 405 bbls. of oil and 15 bbls. of water after acidizing. Total depth is 2,958 feet. It is an old well deepened. Same company No. 1 Nevitt, SE NW NE section 14-32-2, swabbed 550 bbls. of oil in seven hours. Total depth is 2,932 feet.

Allen W. Peairs, Dallas, Tex., has resigned as representative and engineer for the Ralph M. Parsons Company, and returned to consulting practice in refining engineering. He is now engaged in work for the Henry H. Cross Company at Eldorado, Ark.

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Oklahoma Operations

By
DAL DALRYMPLE

WILDCAT INTEREST CENTERS ON TEST IN GARVIN COUNTY

Wildcat operations in Garvin County, Oklahoma, continued to be watched closely, with one test nearing a decision and another getting under way. Mid-Continent Petroleum Corp. No. 1 Butler, SW NW SW section 7-3n-1e, in the Pauls Valley area, was drilling at 4,356 feet in sand and shale. Identity of the sand had not been determined, some observers being of the opinion it might be the Wilcox formation. Sand and shale was recovered in cores at 4,180-86 feet. Shows of oil were encountered further up the hole. This test is particularly interesting because it lies about midway between the southwestern edge of Greater Seminole district and production south of the Arbuckle Mountains in Carter County, and, regardless of results, will give valuable information on the area.

McElreath and Suggett No. 1 Hyre, NE NE SE section 23-3-1w, was digging cellar and moving in material. This is the second test for these operators in this general area, their No. 1 Camp, NE NE SE section 22-4-1w, north of No. 1 Hyre, having been dry and abandoned at 4,640 feet. Despite that failure, interest in the area was high, and owners were asking as high as $200 an acre for royalty at considerable distance from the new test. Acreage in the Pauls Valley area is mostly blocked up, with major companies holding most of the leases.

On application of Continental Oil Co., the Corporation Commission has issued an order providing for well spacing and drilling units in the upper Simpson series of the Jesse pool in Pontotoc and Coal Counties. Each quarter section will be divided into 16 drilling units, the order stated.

Town Lot Owners Meet

At Oklahoma City, a move to drain Lincoln Terrace, exclusive residential district near the state capitol, of whatever oil there may be under it and at the same time protect improvements and possibly pay for them with receipts from the oil was being advocated by property owners. One proposed plan is for owners to unite to hold the property for leases on a single basis: $1,000 bonus for each 25-foot lot and three-eighths of the royalty. The other plan calls for draining the entire area, which is threatened with drilling by production to the north, with from one to five wells, each property owner sharing in oil runs in accordance with the amount of property owned. Oil engineers were quoted as saying it would be possible to drain the entire addition, about 100 acres, with a single location, using the multiple-directional principle.

Coal County

Carter Oil Co. and others No. 1 Thompson, C S half NE NW section 34-2n-9, near Centrahoma in Coal County, total depth 6,731 feet, corrected measurement, set 7-inch casing at 6,681 feet and was waiting. Operators plan to case off water that filled the hole after bailing at 6,710 feet, and before resuming drilling will make a Schlumberger test.

The Fox Field

Carter Oil Co. and others No. 1 Williams, SW NE SW section 27-2s-3w, deep pay discovery in the Fox field of western Carter County, continued the "washing over" process in cleaning out drill pipe below 6,235 feet. Next cut of the drill is expected to be made at 6,695 feet, top of Simpson formation.

Gypsy Oil Co. No. 3 Fitzgerald, SE NE SW section 28-2s-3w, was rigging up and will spud after January 1. It is to seek the deep pay found in the No. 1 Thompson.

Oklahoma County

British-American Oil Co. No. 1 Mary Green, in the area northeast of the governor's mansion in the Oklahoma City field, was completed at total depth of 6,254 feet, 35 feet in Wilcox sand, and on potential test was given a rating of 6,344 bbls. daily; gas volume was 8,300,000 feet. Company officials said it may be deepened in an attempt to increase production. It came in production some time ago, but completion was delayed by mechanical and hole trouble.

Travis Petroleum Co. No. 3 Lucas, NE NW SW section 36-12-3w, completed at total depth of 6,372 feet, flowed 20 bbls. of oil an hour. Gas volume was estimated at 20,000,000 to 30,000,000 feet, after cleaning out. Oswego lime was topped at 6,040 feet; lower Simpson, 6,210 feet; green shale and sand, 6,210 feet.

In the Britton district, Slick-Urschel Oil Co. and others No. 1 Church, community well, NE NE NE section 30-13-3w, topped first Wilcox at 6,706 feet; second Wilcox, 6,770 feet; total depth, 6,772 feet. It was acidized and flowed 644 bbls. of oil in 24 hours, with gas gauged 9,000,000 feet; completed.

Two wells were completed in the Edmond pool. Pure Oil Co. No. 3 Malm, NE NW SW section 30-14-3w, total depth 6,710 feet, was acidized and established a 24-hour potential of 283.50 bbls. of oil. On four-hour test it flowed, respectively, 23.62 bbls., 7.87 bbls., 10.51 bbls. and 5.25 bbls., total, 47.25 bbls. Oswego lime was topped at 6,085 feet; best pay and Viola lime at 6,536 feet; Dense, 6,547 feet.

Rapp Oil & Gas Co. and others No. 1 Price "A," SE SW NW section 30-14-3w, established 24-hour potential of 3,449.16 bbls., on gas lift. Potential by hours: 216.56 bbls. oil, cutting 37½ per cent water; 274.41 bbls. of oil, 47 per cent water; 288.75 bbls. of oil, 51 per cent water; 203.43 bbls. of oil, 25 per cent water; net oil in four hours, 574.86 bbls. Oswego lime was topped at 6,118 feet; Simpson, 6,508 feet; dolomite, 6,511 feet; total depth, 6,697 feet.

No new work was started during the week.

Among the near completions, Larkins & Warr and others No. 1 Rouner, NE NE NW section 1-11-3w, Oklahoma City field, produced 282.60 bbls. in a six-hour potential test, producing 162.33 bbls. of oil on gas lift in the last four hours, cutting 8 per cent basic sediment and water. It found first Wilcox sand at 6,391 feet, total depth 6,397 feet.

Fairfax Oil Corp. No. 1 Bracht, SE SW SW section 23-12-3w, flowed 145 bbls. of oil an hour with drill pipe in the hole. Wilcox sand was topped at 6,345 feet; total depth, 6,465 feet. Same company's No. 2 Bracht, NE SW SW section 23-12-3w, produced 134 bbls. 58 bbls. and 100 bbls. of oil in three hours, respectively, producing 189 bbls. on gas lift in the last four and one-half hours; total depth is 6,500 feet in green shale, Wilcox sand being absent.

In the Edmond pool, Marathon Oil Co. and others No. 1 Hathaway, NE NE NW section 6-13-3w, flowed 1,165 bbls. of oil in 24 hours, and 1,500,000 feet of gas; total depth, 6,721 feet. Wilcox sand was topped at 6,668 feet.

Pontotoc County

Six wells were completed in the Fitts district during the week, including three new oil producers, two old wells deepened and one gas well.

Carter Oil Co. No. 5 Smith, NE NE SW section 28-2-7, Bromide at 3,860 feet; McLish, 4,070 feet; sandy dolomite, 4,140 feet; total depth, 4,297 feet. Its potential is 2,878 bbls. of oil and 1,500,000 feet of gas.

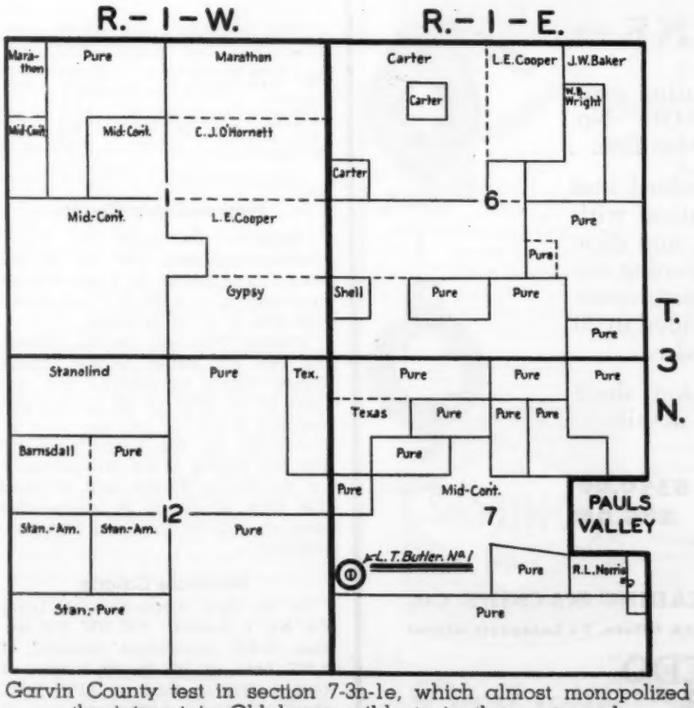
Manahan Oil Co. and others No. 4 Reynolds-Wagner, SW NW SW section 17-2-7, pumped 34 bbls. of oil in 24 hours, from Atoka sand at 1,688 to 1,702 feet; total depth, 1,706 feet. It was completed after shot.

Clark & Cowden No. 2 Summers, SW SE SW section 17-2-7, completed after pumping 17½ bbls. of oil in 24 hours. Atoka sand was topped at 1,660 feet; total depth, 1,694 feet; plugged back to 1,680 feet and shot.

Magnolia Petroleum Corp. No. 2 Smith, NE SE NW section 28-2-7, completed as a gasser, producing 33,000,000 feet of gas, after perforating pipe at 1,309-59 feet; total depth, 1,910 feet.

Carter Oil Co. No. 11 Richards, SE SW SE section 30-2-7, deepened from 4,072 feet to 4,315 feet, total depth, acidized and established new potential of 1,597 bbls. of oil, gas gauging 2,000,000 feet.

E. H. Moore and others No. 3 Wirick, SE NE SW section 29-2-7, deep-



Garvin County test in section 7-3n-1e, which almost monopolized the interest in Oklahoma wildcats in the past week

(By courtesy of Mid-Continent Map Co., Tulsa)

cned from 4,128 feet to 4,392 feet, established new potential of 2,955 bbls. of oil, and produced 2,500,000 feet of gas.

Southern Oil Co. No. 1 Perry, SW SW NW section 11-4-6, wildcat northeast of Ada, was dry and abandoned at 2,741 feet, total depth, after water showed in base of the Hunton, topped at 2,348 feet. Top of Sylvan shale was 2,735 feet.

New Work

New work in Pontotoc County follows: Magnolia Petroleum Corp. No. 3 Statler, NE SE SW section 28-2-7, cellar and pits; same operators No. 1 Shelton, SW SE SW section 28-2-7, rigging up rotary; same operator's No. 2 Metropolitan Life Insurance Co., NE NE SW section 27-2n-7, rig; same operator's No. 1 Woolley, SE SE SE section 21-2-7, location; E. H. Moore and others No. 2 Smith B, SE SE SE section 25-2-6, old well plugged back from 4,325 feet to 4,218 feet, flowed 13.82 bbls. of oil in one hour on gas lift, and acidized; E. H. Moore and others No. 3 Mack, location changed from SW SW SE to NW SW SE section 28-2-7; Stahl Petroleum Co. No. 2 Dennis, NW NE NW section 28-2-7, cellar and pits; Carter Oil Co. No. 7 Harden, SW SE SW section 30-2-7, rigging up rotary to deepen from 4,095 feet; Clark & Cowden No. 3 Summers, NW NE SW section 17-2-7, location.

In the Sand

Carter Oil Co. No. 1 Smith, NE NW SW section 28-2n-7e, total depth 4,338 feet, flowed 282 and 67 bbls. of oil in two hours, respectively, through casing; and 82, 95 and 70 bbls. in three hours, respectively, through tubing.

Stahl Petroleum Co. No. 1 Dennis, SW NE NW section 28-2-7, total depth 4,276 feet, flowed 60 bbls. of oil in one hour by heads.

E. H. Moore and others No. 1 Cradduck, NW NW SW section 29-2-7, total depth 4,395 feet, was shut in for potential. At 4,393 feet it flowed 295 bbls. of oil in one hour, with 12,000,000 feet of gas. Same operator's No. 1-A Wirick, SE SE SW section 29-2-7, total depth 4,084 feet, was acidized with 6,000 gallons at 3,770 to 4,084 feet. Same operator's No. 1 Woodruff, SW NW SE section 29-2-7, was acidized with 4,000 gallons at 3,700 to 4,145 feet.

Carter Oil Co. No. 9 Richards, SE NE SE section 30-2-7, total depth 4,383 feet, flowed 3,000 bbls. of oil while drilling. Same operator's No. 10 Richards, SW SW SE section 30-2-7, total depth 4,325 feet, flowed 173 bbls. of oil in 20 minutes through casing and 125 bbls. of oil in 50 minutes through tubing.

Pioneer Oil & Gas Co. No. 1 Bayne, SE SW SW section 16-5-6, wildcat in northern Pontotoc County, drilled to total depth of 3,016 feet, had a hole full of water; plugged back to 3,006 feet, acidized and was testing.

E. H. Moore and others No. 2 Benton, NE NE NW section 32-2-7, total depth 4,365 feet, flowed 190 bbls. of oil in one hour.

Estimated Production

Estimated daily average production of Oklahoma for the week ending December 28 and for the preceding week is as follows:

	Barrels	
	Dec. 28	Dec. 21
Allen	6,775	6,800
Asher-West Asher	950	975
Burbank	8,000	8,200
South Burbank	11,500	11,250
Balance Osage	23,500	24,000
Blackwell	4,800	4,825
Bristow-Slick	8,750	8,750
Chandler	3,950	4,050
Crescent	5,250	5,200
Cromwell	4,100	4,100
Cushing-Shamrock	12,300	12,300
Duncan district	4,100	4,150
Edmond	6,425	7,350
Fish	11,900	11,500
Fitts	36,175	36,400
Gray	1,625	1,675
Graham	4,025	4,050
Healdton	9,325	9,300
Hewitt	4,600	4,625
Holdenville	1,225	1,275
Keokuk	4,425	3,200
Konawa	1,700	1,700
Lucien	10,300	10,250
Marshall-Lovell	950	975
Oklahoma City	111,350	127,200
Papoose	1,175	1,175
Polo	3,500	3,225
Saskawa and townsite	3,350	3,525
Sholem-Alechem	3,850	3,850
Seminole field:		
Bowlegs	9,250	9,850
Carr City	5,400	5,525
Earlsboro	7,950	7,875
South Earlsboro	925	1,000
East Earlsboro	9,975	10,275
Little River	14,425	14,275
East Little River	1,225	1,150
Maud	975	1,000
Mission	2,750	2,800
Seminole	12,150	11,975
East Seminole	1,675	1,450
Searight	4,700	5,025
Total Seminole	71,400	72,200
St. Louis-Pearson	22,200	21,575
Tatums	4,000	4,050
Tonkawa-Garber-Thomas	5,850	5,850
Wewoka	3,650	3,675
Yale-Jennings	4,250	4,225
Other pools	57,225	55,650
Total Oklahoma	476,825	493,100

Pottawatomie County

Magnolia Petroleum Co. No. 1 Bandenburg-Jones, SW SE SE section 7-7n-4e, in the St. Louis district, was drilling at 3,850 feet and flowed 146 bbls. of oil in 24 hours.

Phillips Petroleum Co. No. 3 Booze, SE NE SE section 9-7n-4e, ripped 8-inch casing at 3,468-78 feet and pumped 16 bbls. of oil in two and one-half hours.

Ark Oil Co. No. 1 Sparkman, SE SE NE section 33-8-4, wildcat north of St. Louis, flowed and swabbed 250 bbls. of oil in 24 hours after shot at 3,871-90 feet, and was then acidized.

Seminole County

In the East Seminole pool, Texas Co. No. 1 Stewart, NE SW NE section 19-9-7, established potential of 1,237 bbls. of oil in 48 hours. It topped Hunton lime at 4,066 feet; show of gas at 4,092 feet; pay at 4,102-07 feet, total depth. Acidized, it flowed 600 bbls. of oil in 15 hours before the potential test.

Atlantic Oil Producing Co. No. 1 Vierson, NE SW SE section 8-6-7, in the Wofford pool, pumped 150 bbls. of oil and 50 bbls. of water in 24 hours, from Simpson dolomite topped at 3,961 feet, and was completed. Wilcox sand was found at 4,026-40 feet, total depth; plugged back to 3,905 feet; drilled to 3,975 feet; shot at 3,950-75 feet, and acidized.

Radial Oil Co. No. 1 Ragland, SW SW NW section 19-5-6, in the Byng area, topped Hunton lime at 2,390 feet; pay at 2,556-68 feet; Sylvan, 2,568 feet, total depth; swabbed 150 bbls. of oil in 24 hours; acidized and flowed 400 bbls. of oil in 24 hours; completed.

New work in Seminole County follows: Texas Co. No. 2 Stewart, SE SW NE section 19-9-7, cellar and pits; M. B. Rudman No. 7 Bates, NE SE NE section 13-6-7, an old well plugged back from 4,082 feet to 2,880 feet, ripped 8-inch casing at 2,810 feet, had 400 feet of oil in the hole and was to shoot; Francis Oil Co. No. 2 Welty, NE NE SE section 24-5-5, was drilling at 1,140 feet.

Reynolds Drilling Co. No. 1 Harjo, NW SE SE section 13-6-7, in the Sasakwa pool, total depth 2,838 feet, produced 11 bailers of oil and two bailers of water in one hour; plugged back to 2,829 feet, had 200 feet of oil in the hole, and was to test.

Horman Oil Co. No. 1-A Davis, NW SE SW section 7-6-8, total depth 2,769 feet, had 500 feet of oil in the hole and was swabbing.

Malarnee and others No. 1 Bruner, NE NE SW section 33-7n-6e, total depth 2,973 feet, in sand based at 2,969 feet, swabbed 65 bbls. of oil in six hours.

Sinclair Prairie Oil Co. No. 2 Maxey, SE SW NW section 1-8-6, was bottomed at 4,185 feet, swabbed 104 bbls. of oil in 24 hours. Operators were to shoot.

Wood Oil Co. No. 2 Burton, NE NW SW section 28-9-6, total depth 4,226 feet, was shot with 20 quarts, had 500 feet of oil in the hole and was to be swabbed.

In the Keokuk pool, Carter Oil Co. and others No. 2 Pipkin C-28, C S half SE NW section 2-10-6, total depth 4,140 feet, swabbed 60 bbls. of oil in 19 hours, and was to be acidized.

Hughes County

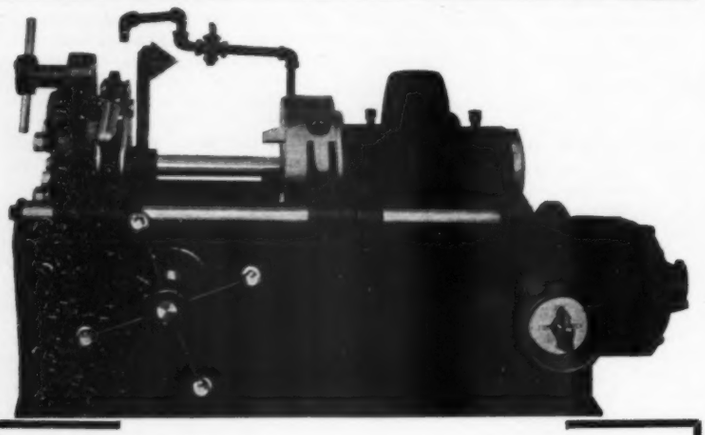
Five Senora sand wells were completed in the Olympic pool, northwestern Hughes County. Rogers Bros. No. 2 Oliphant, NE SW SW section 1-9-8, flowed 1,200 bbls. of oil in 24 hours after a shot; total depth 1,750 feet. Production is Senora sand topped at 1,693 feet.

Sinclair Prairie Oil Co. No. 1 McGirt, SW SW SE section 1-9-8, topped sand at 1,696 feet; total depth, 1,761 feet; was shot and flowed 230 bbls. of oil in seven and one-half hours.

Manahan Oil Co. and others No. 1 Oliphant, SE NE SW section 1-9-8, flowed 360 bbls. of oil in six hours after shot. Sand was topped at 1,682 feet; total depth, 1,753 feet.

Potco Oil Co. No. 3-A McCaslin, SW NW NW section 12-9-8, topped sand at 1,696 feet; total depth, 1,764 feet; was shot and flowed 400 bbls. of oil in 24 hours.

Blackwell Oil & Gas Co. No. 1 Conner, NE NW SE section 11-9-8, the only disappointment during the week, was dry and abandoned at total depth of 1,850 feet. Sand was topped at 1,820 feet. After a 60-quart shot it



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had 500 feet of water in the hole and 10 feet of oil.

New work starting in the Olympic area follows: Manahan Oil Co. and others No. 2 Oliphant C, SW NE SW section 1-9-8, rig; same operator's No. 3 Oliphant C, SE NW SW section 1-9-8, location; same operator's No. 4 Dixon A, SW SW NW section 12-9-8, drilling at 800 feet; same operator's No. 1 Simmer, NE SW SW section 12-9-8, rig; Hayes Drilling Co. and others No. 1 Whitaker, NE NE NE section 14-9-8, location; Rogers Bros. No. 4 Oliphant, NW SW SW section 1-9-8, spudded; P. N. Stuart No. 2 McCaslin, NE NE NE section 11-9-8, location.

Osage County

Kewanee Oil & Gas Co. completed another good producer on their Renald block in the South Burbank area. No. 3 Renald, SW SE SW section 26-26-6, flowed 2,157 bbls. of oil in 24 hours after shooting with 115 quarts at 2,852 to 2,927 feet, total depth. It had sand at 2,842 to 2,926 feet; first gas at 2,850 feet; first oil at 2,864 feet, at which depth it flowed 896 bbls., natural, before shooting.

Sinclair Prairie Oil Co. No. 4 Osage, SE SE NE section 16-25-6, on the southeast edge of South Burbank pool, had a hole full of water at total depth of 3,011 feet and was abandoned. It had Big lime at 2,490 to 2,565 feet; Oswego, 2,628 feet; show of oil, 2,852 feet; no gas; one bailer of water an hour and show of oil, 2,853 feet; chat, 2,956 feet; Mississippi lime, 2,995 feet.

In the Naval Reserve pool, Sinclair Prairie Oil Co. No. 9 Osage, NE SW SW section 15-24-7, topped Oswego lime at 2,275 feet; Bartlesville sand, 2,478 feet; 750 feet of oil in the hole at 2,585 feet, total depth; shot at 2,545-85 feet, and pumped 42 bbls. of oil in 24 hours.

Charles Petroleum Corp. No. 3, NW quarter section 14-22-8, in North Boston pool, had a hole full of water in sand at 650-68 feet, total depth, and was abandoned.

John G. Neely No. 1, SE SE NW section 18-22-12, Hominy Falls area, tested and pumped 25 bbls. of oil from Bartlesville sand at 1,864-82 feet, total depth. It was shot at 1,864-77 feet and swabbed 25 bbls. of oil before testing.

Sinclair Prairie Oil Co. No. 28 Osage, C S half S half NW section 19-23-12, was completed as a repressure well at plugged-back depth of 1,795 feet. Old total depth, 1,779 feet; deepened to 1,815 feet before plugging back.

New tests starting included Kewanee Oil & Gas Co. No. 2 Hale, SE SW SE section 27-26-6, in South Burbank area, digging cellar; Lewis Production Co. and Texas Co. No. 1 Kinney, SE SE SE section 8-24-7, rig; Texas Co. No. 1 Osage, NE NE SE section 25-25-7, location; Ohio Osage Oil Co. No. 11 Osage, SE NW NW section 16-21-9, location; Barnsdall Oil Co. No. 6 Osage, 400 feet from the north line and 1,320 feet from the east line, N half SE section 11-24-10, rigging up machine; Opal Twyman No. 3 Osage, 1,320 feet from south line and 600 feet from west line, W half SW section 4-23-11, shut down at 275 feet; Barnsdall Oil Co. No. 13 Osage, SW SW NE section 10-21-12, moving in material.

Tulsa County

A. L. Troy Brown No. 1 Briles, C E half SW SE section 12-22-12, in the Skiatook area, Tulsa County, had Mississippi lime at 1,536-41 feet, total depth, and produced 102 bbls. in 24 hours.

Creek County

Sinclair Prairie Oil Co. No. 29 Litchfield, SE NE NE section 21-17-7, Creek County, old well deepened from 2,854 feet, had sand at 2,909-13 feet, total depth, and pumped 60 bbls. of oil.

L. B. Jackson No. 2 Nolan, NE NW NE section 2-17-8, had sand at 1,533-70 feet; total depth, 1,575 feet; shot and swabbed and flowed 130 bbls. of oil. Completed.

J. E. Crosbie, Inc., No. 1 Reynolds, SW SW NE section 15-18-8, topped Red Fork sand at 2,687 feet; total depth, 2,730 feet; pumped 6 bbls. of oil and was completed.

New work was started at five locations in Creek County, three being old wells drilling deeper. Mid-Continent Petroleum Corp. No. 10 Artusse, NE NE NE section 14-17-7, deepening from old total depth of 1,617 feet; Sinclair Prairie Oil Co. No. 48 Rector, NW SE NW SE section 6-18-7, moving in tools to deepen from 2,552 feet; Sinclair Prairie Oil Co. No. 9 Long, NE SW SW section 9-18-7, moving in tools to deepen from 2,573 feet; C. O. Buckles No. 7 Fraley, NW NW SE section 22-18-8, had Bartlesville sand at 2,674-2,714 feet, and was drilling below 2,715 feet; L. B. Jackson No. 6 Bear, SW SE SE section 35-18-8, rig.

Pawnee County

J. L. Donehoe No. 2 Walker, NE SW SW section 22-23-4, in the Masham pool, northern Pawnee County, old total depth 3,361 feet, was plugged back to 3,352 feet and swabbed 42 bbls. of oil after perforating 2-inch tubing at 3,325-50 feet. Bartlesville sand was topped at 3,325 feet.

Lincoln County

In the Laffoon area of Lincoln County, Amerada Petroleum Corp. and others No. 1 Laffoon-A, SE NE NE section 9-13-6, was rigging up rotary.

Texas Co. No. 1 Hollister, SE NE NE section 6-14-3, had reached the cellar and pits stage. Location is west of the West Chandler pool.

Grant County

In the Deer Creek pool of eastern Grant County, Argo Oil Co. No. 3 Stewart, NE SE SE section 22-27-3w, found Siliceous lime at 4,224 feet, had a hole full of oil at 4,260 feet, total depth, was acidized and shut in.

Okfuskee County

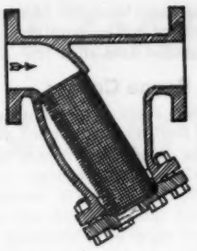
Work has started at two new tests in Okfuskee County. Moffett & Stekoll No. 3 Miller, C N half SE NW section 26-11-11, in the Lyons-Quinn area, was rigging up machine; Fleming and others No. 1-B Robinson, C W half SW SW section 1-10-11, in the Weleetka district, spudded.

Sunray Oil Co. and others No. 1 Culla, NE SW NE section 12-12-8, in the Boley area of Okfuskee County, at plugged back depth of 4,005 feet flowed 240 bbls. gross in four and one-half hours, and one-half barrel of oil and 8 bbls. of water in the next hour, after reacidizing. It was abandoned.

Noble County

Work started at one new test in the Polo field, Noble County. Twin State Oil Co. had cellar dug for No.

STRAINERS



- STEAM
- WATER
- OIL
- GAS
- AIR

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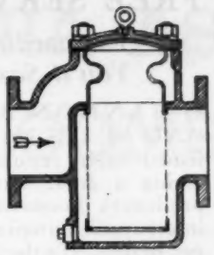

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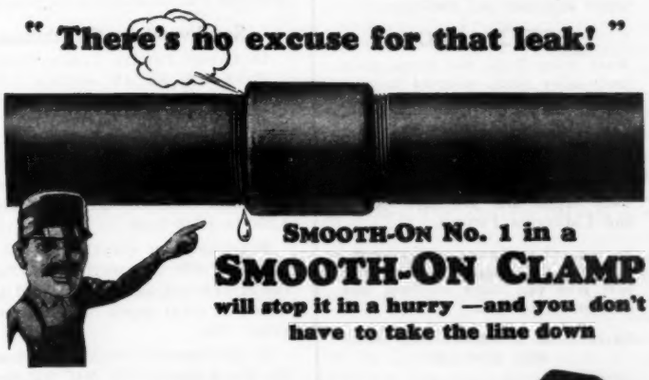

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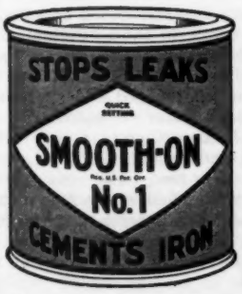

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5 DeVore, NW NE NW section 27-22-2w.

Skelly Oil Co. No. 3 Hannah, SW SE SW section 22-22-2w, in the Polo field, was bottomed at 4,915 feet, flowed 500 bbls. of oil in four hours through casing and 1,092 bbls. of oil in seven hours while running tubing. It was acidized and shut in.

Payne County

Two wells were completed in the Stillwater pool, Payne County, one of them a big producer. Amerada Petroleum Corp. and others No. 1 Clingenpeel, NW NW NW section 34-19-3, flowed 302 bbls. of oil in 24 hours after shot at 4,292-4,306 feet, total depth. It had Burbank sand 3,840 feet, Viola lime 4,243 feet, Simpson 4,265 feet, Wilcox 4,301-05 feet.

Amerada Petroleum Corp. and others No. 1 Gassoway, NE NE NE section 33-19-3, was estimated good for 2,400 bbls., after flowing 1,414 bbls. of oil in 14 hours. Viola lime was topped at 4,230 feet, Simpson dense 4,246 feet, Dolomite 4,266 feet, Wilcox sand 4,283 feet, total depth 4,290 feet.

Logan County

Shell Petroleum Corp. No. 4 Sebranek, SW SE NE section 30-19-4w, in the Marshall pool of northwestern Logan County, produced 70 bbls. of oil and 30 bbls. of water on gas lift, and was completed. It is an old well plugged back from total depth of 6,086 feet to 3,958 feet. After 56 shots at 3,930-42 feet, in Tonkawa sand, it showed for a well and was put on gas lift. No new tests were started.

In the South Langston pool of Logan County, Sinclair Prairie Oil Co. and others No. 1 Brown, SW SW SW section 31-17-1, total depth 5,277 feet, had a slight showing of oil, bailed dry and was shut down for orders.

Southwestern Oklahoma

In Carter County, Louis Sikes No. 1 Byrd, SW SE SW section 4-2s-2w, a wildcat northeast of the Wildcat Jim pool, total depth 1,727 feet, pumped 96 bbls. of oil in the first 24 hours and 37 bbls. of oil in the second 24 hours; completed. Sandy shale, sand and conglomerate was found at 1,150 to 1,210 feet.

Schermerhorn Oil Co. No. 35 fee, NW SW SW NE section 5-4s-3w, in the Healdton pool, was dry and abandoned at total depth of 1,105 feet in sandy lime.

In Jefferson County, Sterntex Oil Co. No. 4 Black, NW NW SE section 16-7s-5w, in the Seay area, had sand at 780-97 feet, total depth, pumped 10 bbls. of oil and a small amount of water; completed.

In Cotton County, H. N. Haustic No. 1-A Weaver, C NW NE section 27-4s-13w, wildcat in the Devol area, was dry and abandoned at 2,508 feet, total depth, in shale. Cullum & Perkins No. 6 Smith, NE SE SE section 34-1s-10w, had sand at 2,178-90 feet, total depth, pumped 4 bbls. of oil and 4 bbls. of water; completed.

In Jackson County, Gypsy Oil Co. No. 1 Southerland, C NE SE SE section 31-1n-19w, near the Tillman County line, had sandy lime at 2,634-45 feet; total depth 2,738 feet, in lime; plugged back to 2,690 feet, pumped 77 bbls. of oil and was completed.

New tests in southwestern Oklahoma include the following: George Pace and others No. 8 Allen, NW NE SW NE section 3-2s-8w, in the Empire district, Stephens County, total depth 2,168 feet, waiting on cement, after getting an oil showing at 2,151-67 feet; Raisen Brothers No. 2 Bohanon, SW SE SW section 10-3s-5w, in the Loco area, estimated gas at 2,000,000 feet in sand at 450-60 feet, set 8¼-inch casing at 430 feet, waiting on cement; Speed & Barker No. 1 Paderson, NE NW NW section 23-9-23w, in the Sayre district of Beckham County, material on location; Wasteka Oil Co. No. 1 Griffin, SW SE NE section 27-6-10w, in Cement area, Caddo County, location; A. H. Jackman No. 1 fee, SW SW SW section 27-1s-24w, wildcat in southwestern Jackson County, machine on ground.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Dec. 28.—On the Del Bonita structure in the southern Alberta border area near Lethbridge, Terminal Oil Co. No. 1, H. Orcutt location, NE section 18-1-21w4, in the Madison limestone at 5,073 feet, was treated with 1,500 gallons of acid. After standing 72 hours it was swabbed, and started to flow by heads, the first pressure lifting the crude oil about 80 feet in the derrick. For some time it blew at two- or three-minute intervals. Later it was hooked up to tankage. Flush production was estimated as high as 500 bbls. a day, but it was pinched down to about 40 bbls. It was then cleaned out and deepened to 5,083 feet, showing a substantial increase in production. S. Myron Zandmer, president of the Terminal company, stated that it was a commercial well, and unofficial estimates placed the production over 100 bbls. a day. The accompanying gas production when the well first blew in was estimated between 5,000,000 and 10,000,000 feet. The crude from the top of the porous zone tested 38.5 Beaume, but on deepening it dropped to about 34 Beaume. There was no water reported with the oil. The well is being allowed to flow for a couple of weeks for a definite production test.

Terminal No. 1 is the largest producer yet drilled in the border area of southern Alberta. Location is about 45 miles due south of Lethbridge, 3 miles north of the international boundary and almost due north of the Cut Bank field of Montana. It is on Nordon Corp. acreage, the Nordon company holding a 5 per cent overriding royalty on all Terminal production. Nordon Corp. has about 7,000 acres in the field and Imperial Oil, Ltd., about 1,000 acres. The well entered the Madison lime at 5,027 feet, getting about 500,000 feet of gas at the contact and encountering 38.5 Beaume crude and a lot of additional gas on deepening into the lime.

South Turner Valley

In section 28-18-2w5, South Turner Valley, Alberta, British Dominion Oil & Development Corp. No. 4, LSD 6, is more than 460 feet in the Madison lime, taking production two tours and drilling one tour. There is a slight increase in wet gas with heavy naphtha ratio, and naphtha recovery is estimated around 100 bbls. a day. Renfrew Royalties No. 1, LSD 3, same section, is preparing to resume from 6,020 feet where casing was cemented in the top of the lime. In the NW cor. of the same section, Turner Valley Royalties No. 1, LSD 13, has steel derrick and some rotary equipment on the lease and is pulling casing, preparatory to resuming from 3,180 feet. British-American Oil Co. is helping to finance completion of this well which offsets Century Royalties No. 1 producer to the west.

Farther south, in section 21-18-2w5, Union-Freehold Oil Corp. No. 1, LSD 8, is below 5,786 feet, more than 186 feet in the Madison lime, which shows alternating hard and soft bands, similar to those in Highwood-Sarcee No. 1. It is expected to get a porous zone in the lime around 5,900 feet. In the SE cor. of the same section, Highwood-Sarcee Oils No. 2, LSD 1, is below 2,075 feet and will change to rotary equipment as soon as 13-inch casing is set.

North Turner Valley

In the North Turner Valley field, Model Oils No. 3, LSD 1, section 22-20-3w5, is not yet clear of drilling fluid. It looks like a possible 25-bbl. naphtha producer. Farther east, Royalite Oil Co. No. 27, LSD 4, section 23-20-3w5, is below 3,434 feet.

Aldersyde Test

On the Aldersyde structure, east of Turner Valley, Ranchmen's Gas & Oil Co. No. 1, LSD 16, section 13-20-28w4, is deepening in the lower sand below 6,660 feet. It got a fair show of high gravity green crude, free from sulphur when the sand was entered and is deepening for commercial production. The crude tests 52 Beaume and analysis shows 98.50 recovery with endpoint 458 degrees. Wet gas in the upper horizons yielded also a small recovery of clear white naphtha. The shows are similar to those encountered in the upper horizons of the Turner Valley field in the earliest development, the formations showing a decided dip to the east of the field. The drill is working in an exceedingly hard formation. Farther south and west, Globe Royalties No. 1, LSD 3, section 2-20-29w4, is moving in heavy duty equipment and will spud early in the new year.

California Field Report

OPTIMISM IN CALIFORNIA AS BALANCE IN OUTPUT LOOMS

By
L. P. STOCKMAN

LOS ANGELES, Calif., Dec. 30.—The New Year will start off with good promise as far as California is concerned and operators view the near future with equanimity because it appears that conditions will substantially improve before next summer rolls around.

The Mountain View field of Kern County should cease to be the disturbing factor and if this expectation is fulfilled the production situation will be greatly improved. This is especially true if operators in the Kettleman Hills, Dominguez, Ventura Avenue, North Belridge and other semi-flush fields continue to restrict production because even if a new flush field is discovered it will not be a factor of consequence within six months after discovery.

California may be able to dispense with a curtailment, provided that operators in certain flush and semi-flush fields are able to work out some method of equitable production among themselves in order to enhance stabilization. Curtailment restrictions were lifted a few months ago in the Kern River, Wheeler Ridge, Summerland, Alamitos Heights, Lawndale, Long Beach, Playa Del Rey, Potrero, Torrance, Whittier and the Los Angeles City fields. Santa Fe Springs and Long Beach have been producing practically to the maximum during the past month and it is exceedingly doubtful whether operators in the Ventura Avenue field could increase current production another 5,000 bbls. per day in a limited period of time. Ventura Avenue has exceptional deep-zone possibilities and consequently this field will continue to be a factor of importance in state production for several years. It appears probable, however, that operators in that field will be obliged to drill a number of deep zone wells in order to increase production possibilities.

Kettleman Hills

Union Oil Co. No. 1 Lillis-Welsh, an outpost in the extreme western end of the Kettleman North Dome field, is rapidly approaching the critical depth. The company is coring solid and although the present depth, 10,872 feet, is only 72 feet above the original depth of 10,944 feet, the pay has not yet been picked up. A total of 10,813 feet of 6⅝-inch casing was landed in this well a week or so ago and an effective water shutoff was secured at this point. The point at which drilling operations will be concluded depends upon the condition of the hole and the production possibilities it shows. It would not be surprising if the Union bottomed this test at approximately 11,000 feet.

The recent reduction in output in the Kettleman North Dome field reflects the cooperative action of operators holding productive acreage in that district. Producers are expected to reach the 85,000-bbl. objective soon. Edgewater intrusion in two wells of the Superior Oil Co. is believed to have prompted that company to pinch back production from approximately 13,000 bbls. per day to 5,000 bbls. and permitted operators holding adjacent acreage to follow a similar procedure.

The Union Oil Co. has not experienced any evidence of edgewater intrusion on its Amerada-King lease with the result that no well on this property is cutting in excess of one-half of 1 per cent. A check of development work under way indicates the probable completion of several new Temblor producers in the Kettleman North Dome field within the next few weeks. This survey also reveals the fact that Kenda and the Standard Oil Co. contemplate maintenance of an aggressive development program during the forthcoming year. In the Middle Dome of Kettleman Hills, the Standard Oil Co. has overcome mechanical trouble at No. 38-2-V and this well and No. 73-30-V of the Petroleum Securities may be ready for production tests within a few weeks. Only two wells have been completed in the Kettleman Middle Dome and both of them, Standard 6-29-V and No. 58-19-V of the Petroleum Securities No. 58-19-V have been shut in for several months as their aggregate daily production of natural gas was insufficient to permit efficient operation of the Standard Oil Co.'s natural gasoline plant.

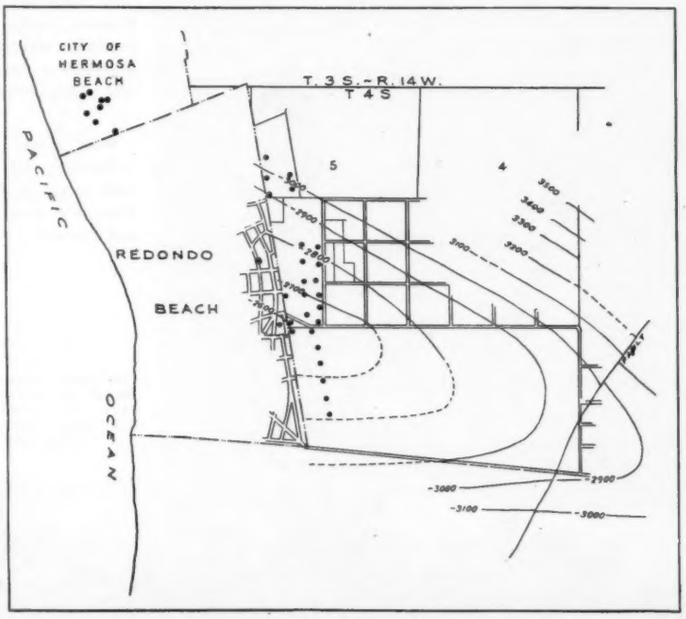
Elwood

In the Elwood Field, Santa Barbara County, Barnsdall and Rio Grande, which are jointly developing several leases in this field, will soon be ready to make a production test on No. 12 Luton Bell. It is rotating ahead at 7,040 feet in what appears to be an oil sand. Cores rather definitely indicate that the bit has penetrated rocks of Eocene age. The three oil zones penetrated in the Sespe, which is located between the Vaqueros and Eocene rocks, have failed to come up to expectations, but the new horizon found in the deep Eocene shows promise of resulting in considerable importance from a production standpoint. The top of the Sespe was encountered in No. 12 Luton Bell at 3,624 feet, while the top of rocks of Eocene age were cored at 6,700 feet. The potentially productive oil zone in the Eocene was encountered at 6,978 feet and the bit was at last reports still in the pay.

Both the Vaqueros and Sespe formations have been found productive in the Elwood field, although most of the oil produced by this field since its discovery came from the oil sands of Vaqueros age. If the Barnsdall and Rio Grande succeed in completing No. 12 Luton Bell as a commercial producer, it will be the first well finished in the Eocene since discovery of the field several years ago. Several previous deep tests projected for completion in the Eocene were lost because of mechanical trouble or due to unfavorable structural conditions.

It will be necessary for operators in the Elwood field to formulate a cooperative curtailment program if No. 12 Luton Bell is completed as a substantial producer because other operators will immediately proceed to drill deep tests to the underlying Eocene. This field presents one of the few possible threats to stabilized conditions on the Pacific Coast during the next six months.

The Honolulu Oil Corp. succeeded in regaining circulation in No. 9 on tideland permit No. 90 a few days ago following a gas blowout of 28 hours early last week. This well was blowing at the rate of 25,000,000 feet of gas per day from 5,065 feet. The Barnsdall and Rio Grande are expected to recomplete No. 6 Luton Bell in the Elwood field within the next few days, as this former Vaqueros zone producer has been redrilled and deepened to 3,610 feet. The top of the Sespe in this well was logged at 3,589 feet.



Torrance field and producing wells at Hermosa Beach, California

Santa Fe Springs

Wilshire Oil Co. No. 4-A Baker in the Santa Fe Springs field proved wet upon being swabbed in a few days ago from 8,803 feet and preparations are being made to plug back the hole to the Meyer zone. This well had been standing idle for two years and the company appeared justified in making a deep test before plugging back. The failure to develop deep production was not at all surprising as it failed to show production when drilling operations were originally concluded at 8,803 feet.

The Union Oil Co. added two new wells to its list during the early part of the current week and recompleted another. The latter was No. 12 Howard, which was returned to production pumping 112 bbls. of 32.7 gravity oil per day from 4,529 feet after the hole had been plugged back from 6,860 feet. The Union's two new wells were No. 83 Bell and No. 27 Alexander. The former was completed pumping 460 bbls. of 32.6 gravity oil per day from 3,917 feet after the hole had been plugged back from 4,080 feet. No. 27 Alexander was finished pumping 126 bbls. of 34.5 gravity oil per day from 4,545 feet. The General Petroleum Corp. is completing preparations to finish No. 26 Santa Fe in this field and is rigging up rotary drilling equipment preparatory to spudding in No. 43 Santa Fe Community.

Playa Del Rey

In the Palisades section of the Playa Del Rey field of Los Angeles Basin, Otis Hoyt completed No. 1 Del Rey, pumping 162 bbls. of 22.6

How We Drilled this 5158-ft. Well

The co-operative service of the HOMCO organization, exclusive distributors of Wheland-Lucey and Lucey Boiler & Mfg. Company equipment in the Gulf Border Territory, played an important part as it always does on HOMCO equipped jobs.

W. P. McCarthy, General Superintendent, Glenn H. McCarthy, Inc., who personally directed the job from rigging up to completion.

More than 40 sales and service men are behind the products distributed by HOMCO. The lines they represent include every item for drilling and producing a well, including all trouble jobs. Besides a complete line of general supplies, such lines as Wheland-Lucey drilling equipment, Lucey Boiler & Manufacturing Co. boilers, Spang-Chalfant pipe and tubular goods, Emsco slotted screen and wire wrapped screen, Hazard wire rope, Standco brake lining, Baroid Sales Company products, Hinderliter Tool Company products, and a complete cutting and fishing tool service equip this organization with the best the field can buy.

With executive offices and store headquarters in Houston, HOMCO operates completely stocked field stores at Kilgore, Anahuac, Victoria, Sinton, Freer and Sam Fordyce, Texas, and Lake Charles and Houma, Louisiana.

Photograph showing the model job, completed for Seaport Oil Corporation, Conroe field, for a good producer. At extreme left are the two 100 h.p., 300-lb. W.P. welded firebox type Lucey Boilers which produced sufficient steam for this fast job.

HOUSTON OIL FIELD

in 5½ DAYS!

W. P. McCarthy, general superintendent of Glenn H. McCarthy, Inc., tells what good drilling crews can do with good equipment. He calls this the best equipped job he's seen in 31 years experience in the oil country.

Here's what Glenn H. McCarthy, president; W. P. McCarthy, superintendent; and M. T. Halboutty, head of engineering and geology for Glenn H. McCarthy interests, have to say about the job:

"We had only 20 minutes shut-down time in 5½ days . . . We did not add a piston, liner, steam valve or mud valve to either of the pumps; in fact, no maintenance expense on the entire rig . . . We only used one pump, not even turning on the other . . . We pulled 3500 feet of drill pipe out of the hole in 30 minutes on one occasion and 5100 feet in 48 minutes on another . . . We ran perfectly while setting casing . . . The hole was not crooked, keeping within 2 degrees of vertical . . . The casing ran smoothly, not scraping nor jamming from surface to bottom . . . We had no steam trouble, having a sufficient amount of steam at all times, although using only two boilers."

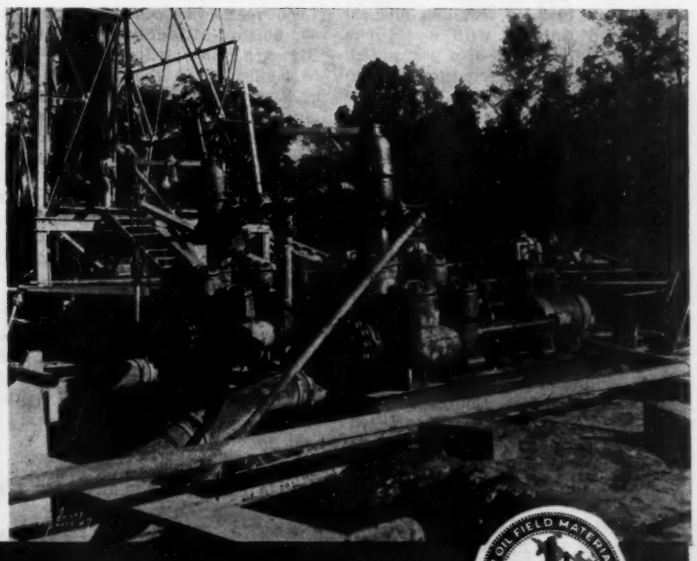
This exceptional time was made in spite of the fact this is an edge well and was completed 21 feet below water level to 5158 feet, necessitating an unusual amount of coring below 5000 feet.

The well was completed as a producer for the Seaport Oil Corporation at Conroe, Texas, and was the second hole drilled with this modern drilling set-up. The entire rig is now running at Little Pine Island, Jefferson County, Texas, drilling an 8000-foot hole on a 7000-acre Glenn H. McCarthy block.

Right: One of the three crews that helped to hang up speed records. Left to right, they are: E. L. Stone, mud man; Jonie Bezdek, pumper; Bart Lang, driller; L. O. Tice, roughneck; Dave Lindsey, fireman; R. A. Hoyle, driller and W. P. Larkin, derrickman.

Lower left: The B-3700 Wheland-Lucey 6-speed unit type drawworks, American bearing equipped throughout.

Lower right: H-12,000 AC Wheland-Lucey slush pumps with high pressure water ends . . . size 14½ x 7¼ x 16.



MATERIAL COMPANY, INC.

gravity oil per day from 6,466 feet after the hole had been finished with 4½-inch liner carrying 71 feet of perforated pipe. The Union Oil Co., with two drilling wells to its credit in this field, is making preparations to complete No. 14 Vidor and spud in No. 15 on the same lease. Drilling operations have been reduced to an absolute minimum due to the fact that the Union Oil Co. and the Ohio Oil Co. are about the only operators in the field that have any undrilled acreage.

Mountain View

The Hogan Petroleum Co. completed No. 5 Wharton in the Mountain View field, flowing 1,280 bbls. of clean 32.3 gravity oil and 1,300,000 feet of gas per day from 5,727 feet after the hole had been finished with 5¾-inch liner carrying 285 feet of perforated. The Standard Oil Co. may complete three wells in the field within the next fortnight and the drilling crews from these projects will be moved to other wells which are being prepared for early work. In section 13-30-29, the Standard is building rig for No. 1 Garcia and has material on ground for No. 1 Warren, which will be drilled in section 13-30-28. The Union Oil Co. has concluded drilling operations on No. 5 Wible at 5,622 feet and is at the present time swabbing for production. The Shell is building rig for No. 5 Porter lease No. 2. In the Edison field, 15 miles southeast of Bakersfield in Kern County, the North American, General Petroleum and A. T. Jergins Trust should have new wells tanking oil within the next 10 days. The Shell's No. 2 Cauley in section 16-30-29 was completed this week pumping at the rate of 250 bbls. per day following completion at 4,510 feet, but the output was still showing a rather high cut.

Inglewood

The Standard Oil Co. finished an excellent well in the Inglewood field during the current week when No. 3 Vickers lease No. 1 was brought in flowing 988 bbls. of 28.6 gravity oil and 400,000 feet of gas per day from 3,689 feet. This well had been carried down to 3,755 feet and plugged back and finished with a 4¾-inch liner including 125 feet of perforated. The Standard is expected to complete No. 22 Rubel and No. 34 on Vickers lease No. 1 within the next week or 10 days. The Associated will probably also add a new well to its list of producers in the Inglewood field in the immediate future, as No. 26 Vickers is rotating ahead in the pay at 2,974 feet.

North Belridge

Union Oil Co. is expected to have No. 7 Gibson in the North Belridge field of Kern County ready for a production test early in January, as it is drilling ahead in Eocene oil sand at 8,697 feet. Continental Oil Co. No. 6 Result is being connected to flow lines and may be swabbed in within the next few days. The Standard Oil Co. No. 3 McPhail has another 200 feet of hole to make. The Belridge Oil Co. spudded in No. 6 in section 1-28-20 about a fortnight ago and tentative plans contemplate the spudding in of No. 20 Belridge by Union Oil Co. within the next few days. The Standard has a new rig standing on the McPhail lease, but reports indicate that the company does not contemplate the initiation of drilling operations until No. 3 has been completed and placed on production.

The Standard Oil Co., having contracted to purchase current production of the Honolulu Oil Corp. in the Round Mountain field of Kern County, has started laying a new line into this field and within the past week awarded a contract for the immediate construction of a 200,000-bbl. reservoir. Shell Oil Co. has been purchasing production of the Honolulu Oil Corp. in this field for years, but the Standard will begin taking delivery of current production early in 1936. In the Mount Poso field of Kern County the Union Oil Co. completed No. 30 S. & M., pumping 852 bbls. of 15.2 gravity oil per day from 1,965 feet after the hole had been finished with a 6⅝-inch liner including 170 feet of perforated. General Petroleum Corp. No. 50 Heisen, finished at 1,655 feet, was completed pumping 332 bbls. of 15.7 gravity oil per day. Rigs are going up for two new wells to be drilled in the Fruitvale field of Kern County and both should begin making hole within 15 days. The Western Gulf Oil Co., with two strings of tools in operation, has just about finished a new rig for No. 18 on Kern County Land Co. lease B and the General Petroleum will complete the rig for No. 3 Hensley in section 22-29-27 within the next day or two.

Montebello

It will probably be another few months before anything further will be known about the potentiality of the Montebello extension due to the relatively limited amount of drilling and the failure of several wells to pick up pay. The Woodward Oil Co. ran a formation test in No. 2 Lapworth, which had been bottomed in a promising oil sand at 3,307 feet but it showed 25 stands of fresh water and a small quantity of gas. The Woodward's first well on this lease was also wet and it is quite possible therefore that the company will put No. 2 on the beam and salvage as much oil as possible. These wells are located in the extreme eastern end of the extension and are producing from rocks of Miocene age in contrast with wells in the western end of the extension which are producing from the Pliocene. Thomas R. Clark appears to have extended the proved limits of the Torrance field of Los Angeles Basin although the real significance of this well remains to be seen. A number of operators are of the opinion that this well has picked up a stringer from the Torrance field and that only small production will be secured. Others lean toward the opinion that this well may have encountered a separate possibly productive area due to the belief that there is a little evidence of the existence of a cross fault which may be the dominating factor in this locality.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	December 15		December 8			
Intercoastal-domestic:	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Fuel oil	.....	.....	.....	.....	.....	11,805,207
Diesel and gas oil	76,870	10,981	76,659	10,951	792,916	1,507,410
Gasoline	.....	.....	.....	.....	6,940,060	7,772,718
Kerosene	81,057	11,580	.....	.....	911,502	1,324,171
Asphalt	.....	.....	.....	.....	.....	70,019
Other finished oil	.....	.....	.....	.....	.....	54,778
Foreign exports:						
Crude oil	195,488	27,927	146,831	20,976	12,307,836	8,025,465
Fuel oil	516,094	73,728	117,554	16,793	11,951,545	12,949,425
Diesel and gas oil	47,163	6,738	.....	.....	4,406,993	4,036,497
Gasoline	117,688	16,813	81,780	11,683	6,526,883	4,623,603
Kerosene	5,752	822	19,590	2,799	1,209,705	1,746,611
Asphalt	5,758	823	.....	.....	5,758	.....
Other finished oil	.....	.....	.....	.....	.....	37,955
Other unfinished oil	20,360	2,909	.....	.....	140,384	234,273
Coastwise-domestic:						
Crude oil	140,891	20,127	93,608	13,373	6,699,582	7,616,845
Fuel oil	55,368	7,910	147,768	21,110	8,884,478	9,216,537
Diesel and gas oil	39,272	5,610	11,713	1,673	1,130,798	769,276
Gasoline	375,070	53,581	144,903	20,700	11,183,836	13,403,839
Kerosene	2,254	322	.....	.....	177,452	303,277

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Fuel oil	.....	.....	.....	.....	.....	110,650
Diesel and gas oil	.....	.....	.....	.....	158,152	675,775
Gasoline	.....	.....	.....	.....	.....	435,943
Kerosene	.....	.....	.....	.....	149,715	276,593
Asphalt	.....	.....	.....	.....	484,587	.....
Lubricants	.....	.....	.....	.....	60,320	52,112
Foreign exports:						
Crude oil	.....	.....	.....	.....	2,535,173	1,857,361
Fuel oil	36,741	5,249	.....	.....	2,149,050	2,150,974
Diesel and gas oil	5,047	721	.....	.....	920,354	1,174,982
Gasoline	.....	.....	.....	.....	2,768,092	2,732,842
Kerosene	.....	.....	.....	.....	638,344	1,044,769
Lubricants	21,242	3,035	.....	.....	204,732	170,760
Other finished oil	.....	.....	.....	.....	.....	2,760
Other unfinished oil	.....	.....	.....	.....	.....	5,750
Coastwise-domestic:						
Fuel oil	65,197	9,314	72,841	10,406	6,682,294	5,232,385
Diesel and gas oil	80,074	11,439	.....	.....	295,368	119,036
Gasoline	.....	.....	66,345	9,478	4,209,723	5,351,531
Kerosene	.....	.....	.....	.....	94,005	82,434

Canadian Gasoline Sales

OTTAWA, Ontario, Dec. 28. — Figures compiled by the federal department of trade and commerce from the returns of the provincial gasoline tax departments show increases in all the six provinces reporting for September compared with their September, 1934, totals. All six provinces also showed increases for the nine-month period of 1935 compared with the same period in 1934. Reports were not received from New Brunswick, Ontario and Saskatchewan in time to be included in the compilation.

Arc Welding Procedure

Constant improvements in the art of arc welding have made it advisable to issue a new edition of "Procedure Handbook of Arc Welding" each year for the past three years and the third edition of this book is now available. It covers new developments and many subjects related to this method of welding such as qualifications of welding operators, methods of determining the amount of current carried by the electrode, flame cutting, welding of sheet metal, chrome-nickel clad steel, high tensile steels, hard facing, machine design, structural design, and describes new applications of arc welding in manufacture or construction.

The book is of special interest to the oil industry operatives because it treats many problems common to welders in this business.

There are nine parts to this 600-page book under the following titles: Welding methods and equipment; technique of welding, procedures, speeds and costs of welding mild steel; structure and properties of weld metal; weldability of metals; designing for arc-welding steel construction of machinery; designing for arc-welded structures and typical applications of arc welding in manufacturing, construction and maintenance.

The book has been compiled by engineers and others with the Lincoln Electric Co., Cleveland, Ohio, and can be secured through the Book Department of The Oil and Gas Journal for $1.50 per copy, postage prepaid.

Canadian Oil Imports

OTTAWA, Ontario, Dec. 28. — Imports of petroleum, asphalt and their products into Canada in October were valued at $5,117,182, an increase of 7.4 per cent over the September valuation of $4,766,804. The major sources of supply, with percentages, were: United States, 77.1; Peru, 12; Colombia, 6.8; Venezuela, 3.1.

Crude petroleum imports in October were 133,728,657 gallons, a 5.3 per cent increase over the September total of 127,017,748 gallons. Sources of supply were: United States, 99,876,515 gallons; Peru, 12,944,841 gallons; Colombia, 11,075,114 gallons; Venezuela, 9,832,097 gallons.

Exports of petroleum and its products from Canada in October were valued at $89,119 against $125,125 in September.

Canadian Gas Production

OTTAWA, Ontario, Dec. 28.—Natural gas production from all Canadian fields in October totaled 1,666,501,000 feet against 1,070,777,000 feet in September and 1,524,775,000 feet in October, 1934. The output for the 10 months of 1935 totaled 17,263,846,000 feet compared with 18,558,579,000 feet in the corresponding 1934 period.

Imports of mixed (natural and artificial) gas into Canada in October declined to 10,402,000 feet valued at $6,775 from the September total of 14,370,000 feet valued at $9,205.

STOCKS HELD IN PACIFIC COAST TERRITORY BY CALIFORNIA OIL COMPANIES

	Nov. 30, 1935	Oct. 31, 1935	Nov. changes	Nov. 30, 1934
1. Non-gasoline-bearing crude, residuum, gas and diesel oils	66,893,828	66,515,093	+378,735	69,567,429
2. Gasoline-bearing crude	37,650,566	35,408,486	+2,242,080	37,304,353
3. Unblended natural gasoline	1,504,890	1,541,558	—36,668	2,485,055
4. Gasoline (not including distributing and service stations)	9,588,395	8,898,477	+689,918	10,187,040
5. Naphtha distillates	*1,460,073	*1,321,037	+139,036	*985,555
6. All other stocks	†9,152,311	†9,202,237	—49,926	†7,618,648
Total	126,250,063	122,886,888	+3,363,175	128,148,080
*Estimated amount of unfinished gasoline contained in Item No. 5	1,016,103	967,043		793,300
†Coke included in Item No. 6	472,099	494,414		578,822

Summary of Operations, All Fields, November

SUMMARY OF ALL FIELDS

Wells Completed

Field—	Comp.	Prod.	Dry	Gas
Eastern	305	978	29	50
Central Ohio	25	262	5	15
Lima	9	45	2	1
Indiana	4	0	3	1
Michigan	47	26,025	8	12
Kentucky	20	636	6	2
Kansas	104	124,214	29	2
Oklahoma	179	106,102	46	6
N. Central Texas	235	22,535	116	4
E. Central Texas	21	417	14	1
East Texas	276	10,382	12	3
West Texas	79	30,524	19	2
Panhandle Texas	63	34,596	1	13
Gulf Coast Texas	100	28,393	25	3
G. Coast Louisiana	31	15,536	9	0
Southwest Texas	150	47,880	36	6
North Louisiana	32	60,314	9	8
Arkansas	7	560	6	0
Montana	28	2,283	6	4
Wyoming	13	4,801	1	1
Colorado	4	790	1	0
New Mexico	39	73,936	9	1
Total Nov.	1,771	591,209	392	135
Total Oct.	1,641	484,229	375	115
Difference	130	106,980	14	20

Rigs and Wells Drilling

Field—	Rigs	Drg.	Ttl.
Eastern	65	265	330
Central Ohio	22	73	95
Lima	3	30	33
Indiana	0	59	59
Michigan	12	111	123
Kentucky	12	14	26
Illinois	0	8	8
Kansas	32	205	237
Oklahoma	66	528	594
North Central Texas	64	197	261
East Central Texas	17	30	47
East Texas	82	143	225
East Texas gas field	11	17	28
West Texas	59	214	273
Panhandle Texas	38	145	183
Gulf Coast Texas	31	133	164
Gulf Coast Louisiana	10	67	77
Southwest Texas	43	108	151
North Louisiana	23	87	110
Arkansas	11	29	40
Mississippi	1	9	10
Florida	0	1	1
Montana	9	48	57
Wyoming	8	66	74
Colorado	3	28	31
New Mexico	11	96	107
Utah	1	9	10
Total Nov.	634	2,720	3,354
Total Oct.	726	2,738	3,466
Difference	92	18	112

OKLAHOMA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Alfalfa	0	0	0	0	1	1	1
Atoka	1	0	1	0	0	12	12
Beaver	0	0	0	0	0	1	1
Beckham	1	0	1	0	1	1	2
Blaine	0	0	0	0	0	1	1
Bryan	0	0	0	0	1	2	3
Caddo	1	0	0	1	1	6	7
Carter	6	64	2	0	1	18	19
Choctaw	0	0	0	0	0	4	4
Cleveland	0	0	0	0	0	4	4
Coal	0	0	0	0	0	2	2
Comanche	1	0	1	0	1	11	12
Cotton	0	0	0	0	0	1	1
Creek	16	645	5	0	3	46	49
Garfield	1	0	0	1	0	3	3
Garvin	1	30	0	0	0	3	3
Grady	0	0	0	0	0	3	3
Grant	0	0	0	0	1	4	5
Greer	0	0	0	0	0	4	4
Harmon	0	0	0	0	0	2	2
Harper	0	0	0	0	0	1	1
Hughes	5	1,284	0	0	1	13	14
Jackson	2	68	0	0	0	10	10
Jefferson	0	0	0	0	1	4	5
Johnston	0	0	0	0	2	3	5
Kiowa	0	0	0	0	0	4	4
LeFlore	0	0	0	0	0	1	1
Lincoln	1	0	1	0	0	9	9
Logan	1	0	1	0	1	16	17
Love	0	0	0	0	0	2	2
Marshall	2	15	1	0	0	7	7
McIntosh	0	0	0	0	0	1	1
Muskogee	3	75	1	0	3	10	13
Noble	5	8,347	0	0	1	16	17
Okfuskee	1	0	0	1	3	14	17
Oklahoma	18	41,088	5	0	2	44	46
Okmulgee	11	90	4	0	1	29	30
Osage	40	12,531	9	1	13	42	55
Pawnee	0	0	0	0	0	2	2
Payne	1	983	0	0	1	4	5
Pittsburg	1	0	0	1	0	1	1
Pontotoc	22	32,372	5	0	13	62	75
Pottawatomie	5	548	1	0	1	13	14
Pushmataha	0	0	0	0	0	1	1
Roger Mills	0	0	0	0	0	1	1
Seminole	21	6,858	1	0	7	48	55
Stephens	6	101	3	0	2	11	13
Texas	0	0	0	0	0	1	1
Tillman	0	0	0	0	0	4	4
Tulsa	1	0	1	0	2	9	12
Washita	0	0	0	0	0	1	1
Wagoner	3	3	2	0	2	10	12
Kay	2	0	1	1	0	5	5
Ttl. Nov.	179	106,102	46	6	66	528	594
Ttl. Oct.	179	129,685	52	6	87	521	608
Difference	0	23,583	6	0	21	7	14

KANSAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Barton	4	2,423	1	0	2	10	12
Butler	12	1,253	2	0	1	11	12
Clark	0	0	0	0	0	1	1
Clay	0	0	0	0	0	1	1
Cowley	7	1,031	2	0	6	14	20
Dickinson	0	0	0	0	0	1	1
Ellis	0	0	0	0	2	4	6
Ellsworth	15	11,345	4	0	1	9	10
Graham	0	0	0	0	0	2	2
Grant	0	0	0	0	0	1	1
Greenwood	4	80	2	0	2	8	10
Haskell	0	0	0	0	0	1	1
Harvey	1	0	0	1	1	3	4
Kingman	2	66	1	0	0	2	2
Logan	0	0	0	0	0	1	1
McPherson	6	490	3	0	3	7	10
Marion	0	0	0	0	0	1	1
Morris	0	0	0	0	0	1	1
Norton	0	0	0	0	0	1	1
Osage	0	0	0	0	0	1	1
Pratt	1	242	0	0	0	2	2
Reno	5	1,155	2	0	2	15	17
Rice	14	8,389	3	0	1	34	35
Rooks	2	514	1	0	0	4	4
Rush	0	0	0	0	2	4	6
Russell	12	2,531	2	0	7	29	36
Scott	0	0	0	0	0	1	1
Sedgwick	3	1,631	1	0	0	6	6
Stafford	3	927	2	0	1	4	5
Stevens	0	0	0	0	0	1	1
Sumner	11	91,942	1	0	0	18	18
Trego	1	0	1	0	1	3	4
Woodson	4	195	1	1	0	4	4
Ttl. Nov.	107	124,214	29	2	32	205	237
Ttl. Oct.	94	95,915	22	8	37	218	255
Difference	13	28,299	7	6	5	13	18

GULF COAST

Texas

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Anahuac	8	4,187	1	0	1	8	9
Barbers Hill	1	150	0	0	2	3	5
Batson	1	487	0	0	0	3	3
Big Hill	0	0	0	0	0	2	2
Big Creek	1	181	0	0	0	1	1
Blue Ridge	2	489	0	0	0	0	0
Boling	2	179	1	0	0	0	0
Clay Creek	1	0	1	0	1	1	2
Cleveland	1	449	0	0	0	1	1
Coletto Cr'k	1	200	0	0	0	1	1
Conroe	5	1,995	0	0	1	0	1
Damon Md.	0	0	0	0	1	0	1
Dickinson	3	1,862	0	0	2	7	9
Esperson	0	0	0	0	1	1	2
Fannett	1	530	0	0	1	1	2
Hankamer	2	0	2	0	2	2	4
Hastings	5	2,594	0	0	2	8	10
High Island	2	578	0	0	2	3	5
Hull	5	37	1	0	0	3	3
Humble	1	377	0	0	1	0	1
Livingston	3	816	0	0	2	3	5
Louise	2	416	0	0	1	1	2
Manvel	3	1,229	0	0	0	6	6
Markham	1	0	1	0	0	0	0
Mauritz	1	0	1	0	0	2	2
Mykawa	2	432	1	0	0	3	3
Old Ocean	1	744	0	0	0	0	0
Orange	2	0	2	0	0	0	0
Orchard	1	0	1	0	0	3	3
Pickett Ridge	1	0	1	0	0	2	2
Pierce Jct.	2	656	1	0	0	3	3
Placedo	5	1,208	0	0	3	6	9
Pledger	1	0	0	1	0	1	1
Port Neches	1	108	0	0	0	1	1
Port Lavaca	1	192	0	0	0	1	1
Raccoon Bend	3	454	0	0	0	3	3
Saratoga	3	30	1	0	0	2	2
S. Houston	6	882	2	1	0	4	4
S. Liberty	1	76	0	0	0	3	3
Thompson	1	1,488	0	0	0	1	1
Tomball	7	4,148	0	1	2	4	6
Tomoconnor	2	1,200	0	0	0	0	0
Van Vleck	0	0	0	0	0	1	1
W. Columbia	0	0	0	0	0	1	1
Misc.	8	0	8	0	6	37	43
Total Nov.	100	28,393	25	3	31	133	164
Total Oct.	99	26,959	31	6	22	147	169
Difference	1	1,434	6	3	9	14	5

Louisiana

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Anse La Butte	0	0	0	0	0	1	1
Black Bayou	2	728	1	0	1	1	2
Bosco	1	804	0	0	0	0	0
Caillou Isl.	3	1,637	2	0	0	2	2
Cameron Meadows	2	1,056	0	0	1	0	1
Choctaw	0	0	0	0	2	1	3
Darrow	1	0	1	0	0	1	1
Dog Lake	1	0	1	0	0	2	2
Four Isle	0	0	0	0	0	1	1
Garden Isl.	0	0	0	0	1	1	2
Gillis	6	3,212	0	0	1	3	4
Gueydan	0	0	0	0	0	1	1
Hackberry	3	1,182	1	0	0	7	7
Iowa	0	0	0	0	0	1	1
Jennings	0	0	0	0	0	2	2
Lafitte	0	0	0	0	0	1	1
Lake Barre	0	0	0	0	0	1	1
Lake Hermitage	1	0	1	0	0	0	0
Lake Pelto	0	0	0	0	0	1	1
Leesville	2	1,621	1	0	2	2	4
Lockport	0	0	0	0	0	1	1
New Iberia	0	0	0	0	0	3	3
Port Barre	0	0	0	0	0	1	1
Roanoke	0	0	0	0	0	2	2
St. Martinsville	1	264	0	0	1	0	1
Starks	0	0	0	0	0	1	1
Sulphur	2	2,280	0	0	0	3	3
Sweet Lake	0	0	0	0	0	1	1
Tepetate	3	2,267	0	0	0	3	3
White Castle	2	485	0	0	0	1	1
Misc.	1	0	1	0	1	22	23
Total Nov.	31	15,536	9	0	10	67	77
Total Oct.	25	11,718	10	0	13	58	71
Difference	6	3,818	1	0	3	9	6

LOUISIANA-ARKANSAS

North Louisiana

Summary of Field Operations

Parish—	Comp.	Prod.	Dry	Gas*	Rgs.	Drg.	Ttl.
Bienville	0	0	0	0	1	0	1
Bossier	3	8	2	0	0	6	6
Caddo	12	60,000	2	0	14	44	58
Caldwell	0	0	0	0	0	3	3
Catahoula	1	0	1	0	0	0	0
Claiborne	0	0	0	0	0	4	4
DeSoto	4	110	2	0	0	6	6
Grant	0	0	0	0	0	1	1
Jackson	0	0	0	0	1	0	1
Lincoln	1	0	0	1	2	0	2
Madison	1	0	1	0	0	0	0
Morehouse	1	0	0	1	1	1	2
Natchitoches	0	0	0	0	0	2	2
Ouachita	5	0	0	5	1	3	4
Rapides	1	56	0	0	0	0	0
Red River	0	0	0	0	0	2	2
Sabine	2	150	1	0	1	10	11
Union	1	0	0	1	0	1	1
Vernon	0	0	0	0	0	1	1
Webster	0	0	0	0	0	2	2
Winn	0	0	0	0	0	1	1
Total Nov.	32	60,314	9	8	23	87	110
Total Oct.	36	34,467	11	12	32	81	113
Difference	4	25,847	2	4	9	6	3

*Gas production: Lincoln, 72,385,000 ft.; Morehouse, 5,000,000 ft.; Ouachita, 8,500,000 ft.; Union, 250,000 ft.; total, 85,135,000 ft.

Arkansas

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Arkansas	0	0	0	0	0	1	1
Ashley	1	0	1	0	0	0	0
Clarke	0	0	0	0	0	1	1
Columbia	1	0	1	0	1	1	2
Hempstead	0	0	0	0	2	0	2
Lafayette	0	0	0	0	2	5	7
Miller	2	0	2	0	3	6	9
Monroe	0	0	0	0	0	1	1
Nevada	0	0	0	0	0	1	1
Ouachita	0	0	0	0	0	4	4
Poinsett	1	0	1	0	0	0	0
Pulaski	0	0	0	0	0	1	1
St. Francis	0	0	0	0	0	1	1
Sevier	0	0	0	0	0	1	1
Union	2	560	1	0	3	6	9
Total Nov.	7	560	6	0	11	29	40
Total Oct.	7	102	4	0	11	31	42
Difference	0	458	2	0	0	2	2

East Texas (Border Counties)

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Cass	0	0	0	0	1	4	5
Harrison	0	0	0	0	3	3	6
Marion	0	0	0	0	2	2	4
Panola	0	0	0	0	3	5	8
Shelby	0	0	0	0	2	3	5
Total Nov.	0	0	0	0	11	17	28
Total Oct.	0	0	0	0	14	13	27
Difference	0	0	0	0	3	4	1

EAST CENTRAL AND EAST TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Anderson	4	364	0	0	1	6	7
Angelina	5	0	5	0	1	3	4
Bowie	0	0	0	0	0	1	1
Camp	2	0	2	0	0	0	0
Cherokee	1	0	1	0	1	1	2
Ellis	1	0	1	0	0	1	1
Fannin	0	0	0	0	1	2	3
Freestone	1	0	1	0	0	1	1
Gregg	105	4,470	3	0	34	52	86
Henderson	2	20	0	1	4	2	6
Hill	1	0	1	0	0	1	1
Hunt	0	0	0	0	0	1	1
Kaufman	0	0	0	0	0	1	1
Lamar	0	0	0	0	2	3	5
Leon	1	0	0	1	0	0	0
Limestone	0	0	0	0	1	0	1
Nacogdoches	0	0	0	0	0	1	1
Navarro	0	0	0	0	0	1	1
Rains	0	0	0	0	3	0	3
Red River	1	0	1	0	3	2	5
Rockwall	0	0	0	0	0	1	1
Rusk	113	3,945	2	2	33	60	93
Smith	21	744	1	0	7	9	16
Titus	0	0	0	0	1	0	1
Upshur	35	1,203	6	0	4	20	24
Van Zandt	4	53	2	0	3	4	7
Ttl. Nov.	297	10,799	26	4	99	173	272
Ttl. Oct.	246	8,503	17	1	96	178	274
Difference	51	2,296	19	3	3	5	2

WEST TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Andrews	2	173	1	0	0	3	3
Brewster	0	0	0	0	0	4	4
Cochran	1	0	1	0	0	0	0
Coke	0	0	0	0	0	1	1
Concho	0	0	0	0	0	2	2
Crane	2	1,947	0	0	4	8	12
Crockett	0	0	0	0	0	3	3
Culberson	0	0	0	0	0	1	1
Dawson	0	0	0	0	0	2	2
Ector	9	4,553	2	0	3	14	17
El Paso	0	0	0	0	0	2	2
Fisher	2	699	0	0	2	10	12
Gaines	0	0	0	0	1	2	3
Glasscock	0	0	0	0	1	1	2
Garza	0	0	0	0	1	0	1
Howard	7	1,527	1	0	3	24	27
Jeff Davis	0	0	0	0	0	1	1
Jones	6	909	4	0	8	17	25
Kimble	1	0	1	0	0	1	1
Loving	1	0	1	0	0	2	2
Lynn	0	0	0	0	0	1	1
Menard	0	0	0	0	1	0	1
Mitchell	0	0	0	0	0	3	3
McCulloch	0	0	0	0	0	2	2
Nolan	0	0	0	0	0	1	1
Pecos	6	6,511	1	0	2	12	14
Presidio	0	0	0	0	0	1	1
Reagan	1	0	1	0	1	2	3
Reeves	1	0	1	0	0	2	2
Runnells	0	0	0	0	0	3	0
Scurry	1	0	1	0	0	1	1
Schleicher	0	0	0	0	0	2	2
Sutton	0	0	0	0	0	1	1
Taylor	1	0	1	0	1	0	1
Tom Green	0	0	0	0	1	1	2
Upton	8	2,192	1	0	4	14	18
Ward	16	4,812	0	1	12	35	47
Winkler	14	7,201	2	1	14	34	48
Yoakum	0	0	0	0	0	1	1
Total Nov.	79	30,524	19	2	59	214	273
Total Oct.	81	31,284	10	0	64	215	279
Difference	0	760	9	2	5	1	6

TEXAS PANHANDLE

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Carson	4	526	0	1	1	10	11
Childress	0	0	0	0	0	1	1
Collingsworth	0	0	0	0	0	2	2
Gray	24	11,868	0	1	8	45	53
Hall	0	0	0	0	1	1	2
Hartley	0	0	0	0	0	1	1
Hutchinson	22	6,176	0	5	11	39	50
Moore	4	0	0	4	6	19	25
Ochiltree	0	0	0	0	1	0	1
Potter	0	0	0	0	1	2	3
Roberts	0	0	0	0	1	1	2
Wheeler	9	16,026	0	2	8	24	32
Total Nov.	63	34,596	1	13	38	145	183
Total Oct.	54	26,182	1	6	26	154	189
Difference	9	8,414	0	7	11	7	6

SOUTHWEST TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Balwdin	1	380	0	0	0	3	3
Barbacoas	0	0	0	0	1	0	1
Caesar	1	720	0	0	0	1	1
Cole	1	0	1	0	0	0	0
Clark	2	1,260	0	0	0	3	3
Corpus Christi	0	0	0	0	0	1	1
Dinero	2	0	1	1	0	0	0
Dirks	7	3,590	0	0	0	1	1
Driscoll	1	0	1	0	0	0	0
Escobas	2	620	0	0	0	1	1
Fort Merrill	0	0	0	0	1	0	1
Govt. Wells	2	40	1	0	2	1	3
Haynes	1	30	0	0	1	0	1
Jacob	4	10	3	0	1	2	3
Kohler	0	0	0	0	0	1	1
Labbe	2	0	0	2	0	0	0
Laurel	1	0	1	0	0	0	0
Loma Novio	43	17,360	1	1	4	7	11
Lopez	4	1,490	0	0	0	4	4
McNeill	0	0	0	0	0	1	1
Mercedes	0	0	0	0	0	2	2
Mirando City	1	0	1	0	0	0	0
N. Pettus	0	0	0	0	0	1	1
O'Hern	8	1,540	1	0	1	2	3
Palo Blanco	1	0	1	0	0	0	0
Pearsall	0	0	0	0	1	0	1
Piedras Lumbre	1	0	1	0	0	0	0
Piedras Pintas	0	0	0	0	1	0	1
Plymouth	8	1,580	0	0	0	6	6

Ray	3	2,260	0	6	1	3	4
Rio Grande City	1	0	1	0	0	1	1
Samfordyce.	11	3,490	1	1	0	6	6
Sarnosa ...	1	540	0	0	0	1	1
Saxet	6	3,150	0	0	1	5	6
Seven Sisters	10	6,600	1	0	2	5	7
Tuleta	1	1,080	0	0	0	0	0
Misc.	24	1,840	20	1	26	50	76
Total Nov.	150	47,880	36	6	43	108	151
Total Oct.	130	28,195	41	0	52	122	174
Difference	20	19,685	5	6	9	14	23

NORTH AND CENTRAL TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Archer	41	4,106	21	0	14	23	37
Baylor ...	18	10,333	5	0	3	10	13
Brown	4	0	4	0	1	6	7
Callahan ..	5	50	3	0	1	9	10
Clay	3	64	0	1	3	0	3
Coleman ..	3	79	1	1	0	7	7
Comanche .	1	20	0	0	0	5	5
Collin	0	0	0	0	0	1	1
Cooke	28	1,105	7	0	3	30	33
Denton	3	0	3	0	1	4	5
Eastland ..	3	5	2	0	3	10	13
Erath	0	0	0	0	0	1	1
Foard	0	0	0	0	0	1	1
Grayson ..	0	0	0	0	0	2	2
Haskell ..	1	0	1	0	0	2	2
Hamilton ..	0	0	0	0	1	1	2
Jack	15	64	9	0	1	9	10
Johnson ..	0	0	0	0	0	1	1
Mills	0	0	0	0	0	1	1
Montague ..	12	619	3	1	0	12	12
Palo Pinto..	0	0	0	0	0	2	2
Parker ...	2	0	2	0	0	1	1
Shackelford	19	313	10	1	7	15	22
Stephens ..	0	0	0	0	1	2	3
Tarrant ...	0	0	0	0	0	1	1
Throckmorton	6	10	5	0	0	3	3
Wichita ..	33	2,561	20	0	3	13	16
Wilbarger .	5	10	4	0	0	7	7
Wise	0	0	0	0	0	3	3
Young	33	2,641	17	0	22	15	37
Ttl. Nov.	235	22,535	116	4	64	197	261
Ttl. Oct.	209	18,042	97	2	61	207	268
Difference	26	4,493	19	2	3	10	7

ROCKY MOUNTAIN AREA

New Mexico

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Barnalillo .	0	0	0	0	0	2	2
McKinley ..	1	0	1	0	0	4	4
Rio Arriba .	0	0	0	0	1	0	1
Sandoval ..	0	0	0	0	0	1	1
Santa Fe ..	0	0	0	0	0	2	2
San Juan ..	2	145	0	0	0	11	11
Harding ...	0	0	0	0	0	1	1
Valencia ...	0	0	0	0	1	3	4
Torrance ...	1	0	0	1	0	2	2
Lea	29	73,776	3	0	6	52	58
Eddy	5	15	4	0	3	5	8
Chaves	1	0	1	0	0	2	2
Curry	0	0	0	0	0	1	1
Guadalupe .	0	0	0	0	0	1	1
Quay	0	0	0	0	0	2	2
San Miguel.	0	0	0	0	0	6	6
Union	0	0	0	0	0	1	1
Total Nov.	39	73,936	9	1	11	96	107
Total Oct.	28	47,533	2	0	15	101	116
Difference	11	26,403	7	1	4	5	9

Colorado

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Adams	0	0	0	0	0	2	2
Archuleta .	3	550	1	0	1	1	2
Elbert	0	0	0	0	0	1	1
Huerfano ..	0	0	0	0	0	3	3
Jackson ...	0	0	0	0	0	2	2
Larimer ...	0	0	0	0	0	2	2
Moffat	1	240	0	0	1	1	2
Park	0	0	0	0	1	1	2
Misc.	0	0	0	0	0	15	15
Total Nov.	4	790	1	0	3	28	31
Total Oct.	3	148	1	1	3	30	33
Difference	1	642	0	1	0	2	2

Utah

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Total Nov...	0	0	0	0	1	9	10
Total Oct...	0	0	0	0	1	9	10
Difference	0	0	0	0	0	0	0

Wyoming

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Albany	1	0	1	0	0	3	3
Big Horn ..	1	315	0	0	3	11	14
Carbon	2	292	0	1	0	7	7
Converse ..	0	0	0	0	0	6	6
Fremont ...	0	0	0	0	0	3	3
Hot Spgs. .	0	0	0	0	1	2	3
Lincoln ...	0	0	0	0	0	3	3
Niobrara ..	1	4,000	0	0	3	7	10
Park	0	0	0	0	1	3	4
Sweetwater.	2	4	0	0	0	3	3
Sublet	1	60	0	0	0	3	3
Uinta	0	0	0	0	0	4	4
Washakie .	0	0	0	0	0	3	3
Weston	5	130	0	0	0	6	6
Misc.	6	0	0	0	0	2	2
Total Nov.	13	4,801	1	1	8	66	74
Total Oct.	9	3,709	4	0	8	70	78
Difference	4	1,092	3	1	0	4	4

Montana

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Big Horn ..	0	0	0	0	0	3	3
Carbon	0	0	0	0	0	2	2
Fallon	1	0	0	1	0	1	1
Fergus	0	0	0	0	0	5	5
Glacier	19	2,073	3	2	7	9	16
Hill	1	0	0	1	0	1	1
Stillwater ..	1	0	1	0	0	0	0
Toole	6	210	2	0	2	15	17
Misc.	0	0	0	0	0	12	12
Total Nov.	28	2,283	6	4	9	48	57
Total Oct.	14	799	3	0	9	63	72
Difference	14	1,484	3	4	0	15	15

MICHIGAN

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Midland ...	9	1,630	1	0	1	25	26
Isabella ...	4	405	1	0	1	23	24
Ogemaw ...	3	1,100	1	0	2	14	16
LaPeer	0	0	0	0	0	0	0
Bay	0	0	0	0	0	0	0
Mason	0	0	0	0	0	1	1
Clare	0	0	0	0	0	3	3
Mecosta ...	8	0	1	7	4	12	16
Montcalm .	18	22,870	2	4	4	20	24
Gratiot	2	0	1	1	0	6	6
Iona	1	0	1	0	0	1	1
Monroe	0	0	0	0	0	1	1
Saginaw ...	2	20	0	0	0	3	3
Total Nov.	47	26,025	8	12	12	111	123
Total Oct.	36	19,508	13	6	80	122	212
Difference	11	6,517	5	6	78	11	89

PENNSYLVANIA GRADE FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Bradford ..	*134	219	0	0	9	57	66
Allegany ..	†15	14	0	0	5	4	9
Venango-Clarion .	33	88	1	1	2	10	13
Butler-Armstrong	5	5	2	0	5	6	11
S.W. Penna.	11	75	3	6	6	27	33
S.E. Ohio .	55	469	13	13	17	51	68
W. Va. ...	52	108	10	30	21	110	131
Ttl. Nov.	305	978	29	50	65	265	330
Ttl. Oct..	318	655	32	40	56	218	274
Difference	13	323	3	10	9	47	56

*Includes 24 pressure wells. †Includes 5 pressure wells.

INDIANA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Gibson	2	0	2	0	0	6	6
Pike	0	0	0	0	0	5	5
Knox	0	0	0	0	0	4	4
Decatur	0	0	0	0	0	4	4
Daviess	1	0	0	1	0	5	5
Cass	1	0	0	0	0	1	1
DeKalb	0	0	0	0	0	3	3
Jay	0	0	0	0	0	3	3
Lawrence ..	0	0	0	0	0	2	2
Martin	1	0	1	0	0	4	4
Spencer	0	0	0	0	0	7	7
Vanderburg.	0	0	0	0	0	1	1
Hancock	1	0	0	0	0	1	1
Dubois	0	0	0	0	0	3	3
Dearborn ...	0	0	0	0	0	1	1
Sullivan ...	0	0	0	0	0	1	1
Delaware ...	0	0	0	0	0	1	1
Perry	0	0	0	0	0	3	3
Harrison ...	0	0	0	0	0	1	1
Huntington.	0	0	0	0	0	1	1
Posey	0	0	0	0	0	1	1
Vigo	0	0	0	0	0	1	1
Total Nov.	4	0	3	1	0	59	59
Total Oct.	20	131	8	5	3	51	54
Difference	16	131	5	4	3	8	5

LIMA FIELD

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Wood	0	0	0	0	0	3	3
Henry	0	0	0	0	0	2	2
Allen	3	35	1	0	0	4	4
Auglaize ...	1	0	1	0	0	3	3
Mercer	0	0	0	0	0	1	1
Hardin	1	2	0	0	1	2	3
Darke	0	0	0	0	0	5	5
Ottawa	0	0	0	0	0	1	1
Sandusky ..	1	6	0	0	0	2	2
Seneca	0	0	0	0	1	4	5
Wyandot ...	3	2	0	1	1	3	4
Total Nov.	9	45	2	1	3	30	33
Total Oct.	7	13	3	2	1	30	31
Difference	2	32	1	1	2	0	2

CENTRAL OHIO

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Ashland ...	4	49	1	1	1	4	5
Wayne	0	0	0	0	2	5	7
Lorain	2	0	1	1	2	4	6
Cuyahoga ..	0	0	0	0	1	1	2
Holmes	2	0	0	2	3	6	9
Richland ..	0	0	0	0	0	4	4
Tuscarawas.	2	0	0	2	0	3	3
Summitt ...	3	0	1	2	2	5	7
Portage ...	0	0	0	0	0	1	1
Coshocton ..	2	210	0	1	0	5	5
Stark	3	0	0	3	3	16	19
Gallie	0	0	0	0	0	4	4
Scioto	0	0	0	0	0	1	1
Pike	0	0	0	0	0	4	4
Lawrence ..	0	0	0	0	1	3	4
Delaware ..	0	0	0	0	0	1	1
Putnam ...	1	10	0	0	0	0	0
Perry	4	0	2	2	6	4	10
Fairfield ...	2	2	0	1	1	3	4
Total Nov.	25	262	5	15	22	73	95
Total Oct.	18	104	6	9	24	72	96
Difference	7	158	1	6	2	1	1

KENTUCKY

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Ohio	12	186	6	0	4	9	13
Hancock ...	2	0	0	2	5	2	7
McLean ...	6	450	0	0	3	3	6
Total Nov.	20	636	6	2	12	14	26
Total Oct.	28	574	11	1	2	7	9
Difference	8	62	5	1	10	7	17

ILLINOIS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Clark	0	0	0	0	0	6	6
Jasper	0	0	0	0	0	2	2
Total Nov.	0	0	0	0	0	8	8
Total Oct.	0	0	0	0	0	8	8
Difference	0	0	0	0	0	0	0

New Texas Pool Map

The Zingery Oil Map Co. of Fort Worth has compiled a new map showing all oil fields, gas fields and known salt domes in Texas. It also shows the southeastern part of New Mexico with all the pools located in that area. Names of the fields are carried in an alphabetical index below the map.

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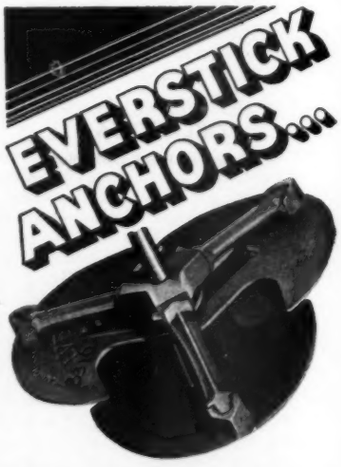

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WILDCAT OPERATIONS

OKLAHOMA WILDCATS

Week Ending December 28

NORTHERN OKLAHOMA

Alfalfa County

Tex-O-Kan Oil Co.'s No. 1 Acre, C SW NE Sec. 14-24-11w.
Lost circulation, 6,861 ft.

Beaver County

Anderson & Kerr et al's No. 1 Davis, C SW SE Sec. 36-5-26 (Cimarron Meridian).
Tools stuck at 5,765 ft.

Beckham County

Benonine Oil Co. No. 1 Smith, SW cor. Sec. 17-8-23w.
T.D. 1,255 ft.; fishing for csg.

Star Oil Co.'s No. 1 Blair, C NW SE Sec. 32-9-26w.
S.D. for csg. at 350 ft.

Caddo County

Denver Prod. & Ref. Co.'s No. 1 Sah-Can, C SE SE Sec. 33-10-10w.
Drlg. 3,758 ft.

H. W. Lee et al's No. 1 Horton, NE cor. Sec. 9-6-13w.
S.D. at 2,001 ft.

F. A. Turner et al's No. 1 Sapin, NE NE SW Sec. 1-5-11w.
Cmtng. cave; T.D. 3,402 ft.

Cleveland County

Asa Lee Mayes, Inc.'s No. 1 Parsons, SW SW SE Sec. 30-9-1.
S.D. at 3,500 ft.

Hall-Briscoe, Inc.'s No. 1 Fant, SW SW NE Sec. 27-10-2w.
S.D. at 7,511 ft.

Coal County

Carter Oil Co. et al's No. 1 Thompson, C S½ NE NW Sec. 34-3-9
S.D. at 6,710 ft. for orders.

Shell Pet. Corp. No. 3 Hill, SE SE NW sec. 30-3-10.
Rig.

Southern Oil Co.'s No. 1 Fish, SW SW SW Sec 6-1s-8.
Viola 680 ft.; drlg. 866 ft.

Comanche County

John Nicholas' No. 1 Householder, NE NE SW Sec 8-2-10w.
Drlg. 959 ft.

Geo. Pace et al's No. 1 Spencer, SW cor. SE Sec. 21-3-10w.
Drlg. 3,842 ft.

Garfield County

Earl McBride et al No. 1 Gage estate, SE NW Sec. 27-22-3w.
S.D. at 1,090 ft.

Herndon Drlg. Co. et al's No. 1 Whitaker, SE cor. Sec. 27-24-3w
T.D. 5,005 ft. in sand; bailed down 1,400 ft.; could not lower fluid; small showing of gas and H.F.W.

Garvin County

Chas. E. Carter et al No. 1 Wood, NW SW SE sec. 5-4-3.
Old T.D. 2,405 ft.; to deepen.

Mid-Continent Pet. Corp. No. 1 Butler, SW NW SW Sec. 7-3-1.
Coring 3,890 ft.

Orbit Oil Co. No. 1-A Federal Land Bank, SE SW SW Sec. 10-4-3.
T.D. 3,006 ft.; P.B. to 2,463 ft.; recmtd.

Grant County

Shell Pet. Corp.'s No. 1 Foster, NW SE Sec. 30-27-8w.
T.D. 6,174 ft.; P.B. to 5,945 ft. to test a show in Mississippi lime.

Southern Oil Co. et al's No. 1 Allen, SW SE Sec. 36-26-4w.
T.D. 5,208 ft.; S.D.; tools out.

Hughes County

Brady Oil Co. No. 1 Culver, NE SE NW Sec. 28-7-9.
Location.

W. P. Carravan No. 1 Meadors, SE NE SE sec. 5-8-12.
Location.

Schumacher et al No. 1 Schumacher, NE NW NE Sec. 23-5-10.
Drlg. 875 ft.

Sivalls et al's No. 1 Montgomery, NW SW NW Sec. 7-9-9.
T.D. 2,040 ft.; S.D.

Kay County

Ben Head et al No. 1 Bealveal, SW cor. Sec. 8-25-1w.
Rigging up rotary at 60 ft.

Helmerich & Payne's No. 1 Roth, SW SW SW Sec. 8-28-2w.
Drlg. 4,670 ft.

A. D. Morton's No. 1 Warren, SE SE NW Sec. 19-29-4.
Mississippi lime 5,169 ft.; S.D. at 5,175 ft.

Kiowa County

Besler & Klein No. 1 Van Kirk, NE SW Sec. 35-7-15w.
S.D. at 607 ft.

Burns & Moore's No. 1 Webster, C NE NE sec. 2-6-17w.
S.D. at 33 ft.

Rajah Oil Co.'s No. 3 Stone, C SE NE Sec. 34-7-17w.
Salt water 1,480-1,547 ft., T.D.; plugged back to 960 ft.; acidized; pumped 12 bbls. in 8 hrs.; S.D. for pumping equipment.

Lincoln County

Fred McDuff's No. 1 Jacob, NE NE SE Sec. 10-15-5.
Rig.

Stanolind O. & G. Co. and Amerada Pet. Corp. No. 1 Crawford, NE NE SE Sec. 35-15-2.
Sylvan 4,930 ft.; T.D. 5,125 ft.; testing.

Texas Co.'s No. 1 Andrew, NW NE SE sec. 28-14-5.
Drlg. 1,620 ft.

Texas Co.'s No. 1 Vanderpool, NW SW SE Sec. 11-16-3.
Viola 4,805 ft.; T.D. 4,869 ft.; drlg. plug.

Logan County

Springrose Drlg. Co. No. 1 Wright, SW SW NW Sec. 32-15-1.
Drlg. 2,535 ft.

Stanolind O. & G. Co., Amerada Pet. Corp. and Eason O. & R. Co.'s No. 1 Gragg, SW SW NE Sec. 20-18-4w.
Drlg. 4,219 ft.

McClain County

Arab Pet. Corp. No. 1 Autry, NW cor. Sec. 16-7-3w.
Drlg. 3,458 ft.

McIntosh County

Indian Ty. Ill. Oil Co.'s No. 1 Tancred, 1,050 ft. S and 390 ft. E of C. Sec. 9-9-14.
Tools stuck at 1,915 ft.

Murray County

Hornsby & Jones' No. 1 Sadler, NE NE NW sec. 20-1-2.
Repairing pumps; T.D. 1,430 ft.

Okfuskee County

W. J. Sherry et al's No. 1 Washington, SW SW NE Sec. 21-13-7.
P.B. 4,130 ft.

Sunray Oil Co.'s No. 1 Culla, NE SW NE Sec. 13-12-8.
Hunton 3,996 ft.; new T.D. 4,005 ft.; acidized with 2,000 gals.; flowed ½ bbl. oil and 8 bbls. wtr. in 1 hr.; abd.

Oklahoma County

Mid-Continent Pet. Corp. No. 1 Dahl, NE NE NW Sec. 8-13-3w.
Drlg. 4,918 ft.

Sinclair Prairie Oil Co. et al No. 1 Heavey, NE NE NW Sec. 19-13-3w.
Drlg. 2,575 ft.

Sinclair Prairie O. & G. Co.'s No. 1 Corbett, NE NW NE Sec. 17-13-3w.
Wilcox sand 6,646-6,706 ft.; plugged back to 5,390 ft. with 150 sacks cmt.

Pittsburg County

Vaughn Production Co. et al's No. 1 Chunn, 990 ft. N and 614 ft. W of C Sec. 29-4-14.
S.D. 1,170 ft.

Pontotoc County

W. A. Delaney et al No. 1 Hilsdale, SE SE NE sec. 35-4-6.
Spudded and S.D.

Gypsy Oil Co.'s No. 1 Emry, SW SW NE Sec. 15-2-6.
Drlg. 5,050 ft.

H. W. Marcum No. 1 Magnuson, SW SE SE sec. 23-2-7.
Old T.D. 1,930 ft.; to deepen.

Pioneer O. & G. Co. No. 1 Bayne, SE SW SW Sec. 16-5-6.
(Old well deepening); T.D. 3,016 ft.; P.B. to 3,006 ft.; acidized and testing.

Southern Oil Co.'s No. 1 Perry, SW SW NW Sec. 11-4-6.
Sylvan 2,735 ft.; S.D. at 2,741 ft., T.D.; dry and abd.

Pottawatomie County

Ark Oil Co. No. 1 Sparkman, SE SE NE sec. 33-8-4.
Location.

Ross Oil Co. et al's No. 1 Sparkman, SE NE Sec. 33-8n-4e.
C.O. 3,915 ft.; shot at 3,871-90 ft.; swbd. 250 bbls. in 24 hrs.; acidized.

Roger Mills County

Anderson & Kerr et al No. 1 Tester, C SE SE Sec. 2-17-25w.
Drlg. 5,204 ft.

Seminole County

Deep Rock Oil Co.'s No. 1 Robert, SW NW NW Sec. 32-9-8.
Wilcox 4,569 ft.; cored water sand 4,589-90 ft.; plugged back to 1,915 ft.

Sinclair Prairie Oil Co. et al No. 1 Harrison, NE NE NW Sec. 17-8-8.
Location.

Felmlee & Nichaelson No. 1 Belford, SE NW NE sec. 15-9-8.
Drlg. 1,060 ft.

Texas County

Cabot Carbon Co. No. 1 Mathews, C SW Sec. 8-3-15 (Cimarron Meridian).
T.D. 2,760 ft.; 4,300,000 ft. gas; comp.

Washita County

L. P. McWhirter's No. 1 fee, SW cor. Sec 34-8n-19w.
T.D. 1,347 ft.; S.D.

SOUTHERN OKLAHOMA

Atoka County

R. H. Pierce et al's No. 1 Aetna Life Ins Co., NW SW NE Sec. 10-1n-13e.
Drlg. 3,477 ft.

Vierson et al's No. 1 Williams, NE SW NW Sec. 34-2s-10.
S.D. 3,390 ft.

Bryan County

H. B. Smith et al's No. 1 Henry, C NW NE Sec. 10-8s-7e.
Rig.

Carter County

Carter Oil Co.'s No. 1 Carter-Williams SW NE SW Sec. 27-2s-3w.
T.D. 8,088 ft., flowed 10,000 bbls. of oil in 24 hrs.; pipe stuck.

J. H. Hudson et al No. 1 Cathey, SE NE NE Sec. 6-5s-1w.
Drlg. 2,864 ft.

E. M. Hutchins No. 1 Moore, NE SE NW Sec. 30-4s-1w.
Location.

Louis Sikes' No. 1 Byrd, SW SE SW Sec. 4-2s-2w.
T.D. 1,727 ft.; est. 37 bbls.; comp.

Cotton County

H. N. Haustic No. 1-A Weaver, C NW NE Sec. 27-4s-13w.
T.D. 2,508 ft.; abd.

Jackson County

Associated Oil Co.'s No. 1 Harrell, NE NE SE Sec. 13-1s-21w.
S.D. 1,360 ft.

A. H. Jackman No. 1 fee, SW SW SW sec. 27-1s-24w.
Machine on ground.

Universal Oil Co. No. 1 R. W. Briscoe, NW SW NE sec. 36-1s-20w.
Rig up.

Jefferson County

L. C. Heydrick No. 1 O. W. Seay, SE NW NW Sec. 31-6s-5w.
Drlg. 1,326 ft.

Geo. Pace No. 1 Gardner, SW cor. Sec. 23-5s-5w.
S.D. at 66 ft.

Sinclair Prairie Oil Co. No. 1 M. H. Barrett, NW cor. sec. 31-5s-6w.
Moving in material.

Twin State Oil Co. No. 1 Bassett, NW SW SW Sec. 16-5s-7w.
Drlg. 3,605 ft.

Johnston County

Equitable O. & G. Co.'s No. 1 Bellsey, NE SW Sec. 12-2s-4e.
Arbuckle lime 1,552 ft.; drlg. 1,577 ft.

Moore & Wirick's No. 1 Westheimer & Daube, SE NW NE Sec. 19-3s-4e.
Drlg. 1,730 ft.

Le Flore County

McCraw et al No. 1 Tidwell, C NW SE sec. 17-3n-22.
Drlg. 880 ft.

Love County

Amerada Pet. Corp.'s No. 1-A Westheimer & Daube, SW SE SW Sec. 27-6s-2e.
Coring below 4,048 ft.

Sinclair Prairie Oil Co.'s No. 1 Stockton SE SE SW Sec. 28-6s-2w
Acidized with 2,500 gals.; circulating 200 bbls. oil, to free drill pipe stuck at 6,832 ft.; T.D. 7,165 ft.

Marshall County

Norman Smith's No. 1 Chestnut, NE cor Sec. 23-8s-5e.
S.D. 275 ft.

W. T. Singley et al No. 1 Halford, SW SE SW SW Sec. 32-7s-4.
Drlg. 200 ft.

W. T. Singley No. 1 Vickers, NW SW NW Sec. 22-7s-4.
Drlg. 145 ft.

Pushmataha County

C. W. Whitehead et al's No. 1 Misser, SE SW SW Sec. 35-3s-18e.
S.D. 3,560 ft.

Stephens County

Franklin & Duncan's No. 1 Woolsey, NW NW SE Sec. 10-3s-4w (old well deepening).
T.D. 1,050 ft.; shut down.

Nash et al No. 1 Saddler, SW cor. NW NW SE Sec. 30-2n-4w.
T.D. 180 ft.; waiting for csg.

Shasta Oil Co.'s No. 1 Fuqua, NE NW NW Sec. 13-1s-7w.
T.D. 3,522 ft.; dry and abd.

M. T. Summings No. 1-A Aldridge, NW NE SE Sec. 15-1s-4w.
Sand 380-415 ft.; est. 10 bbls. oil and 250,000 ft. gas; shut down; no gauge.

Tillman County

Gypsy Oil Co.'s No. 1 Schenck, SE NW SE Sec. 31-1s-18w.
Drlg. 2,885 ft.

R. O. Ray No. 1 Tucker, SW NW SW Sec. 17-1s-19w.
Drlg. 2,940 ft.

Chas. Walker No. 1 D. M. Gale, NE NE NW sec. 16-1s-19w.
Location.

KANSAS WILDCATS

Week Ending December 28

(Descriptions are East unless marked otherwise)

Barton County

Buchanan & Alexander No. 1 Langfeld, NE NE SW sec. 14-20-11w.
Cellar.

John Burton No. 1 Wendel, NE cor. sec. 13-19-11w.
Rig.

Hilligoss et al No. 1 Schmidt, NE cor. Sec. 27-19-11w.
Rigging up.

Lario O. & G. Co. et al's No. 1 Smith, SW NW NW Sec. 26-18-13w.
Drlg. 2,670 ft.

Morgan & Flynn et al No. 1 Amerine, NE cor. sec. 14-19-14w.
Rigging up.

Morgan & Flynn et al No. 1 Zimmer, SE SE SW sec. 20-19-14w.
Bldg. rig.

Murphy & Morgan's No. 1 Robinson, NE NE SW Sec. 21-16-14w.
Rigging up.

Torry & Feaster No. 1 Kimpler, SE NE NE Sec. 31-18-11w.
Drlg. 2,580 ft.

Torry & Feaster's No. 1 Feist, NE NE SE Sec. 29-18-11w.
Siliceous lime 3,430-32½ ft., T.D.; Potential; pumped 346 bbls. oil in 18½ hours.

W. E. Witt's No. 1 Murry, NW NW SW Sec. 14-17-14w.
Drlg. 2,250 ft.

Yarnell, Carlson & Spencer No. 1 Bloomer, NE NE NW sec. 36-17-11w.
Rigging up.

Butler County

National Ref. Co. No. 1 McCullough, NE NE SW sec. 1-28-6.
Bldg. rig.

Pryor & Lockhart No. 1 Boucher, NW cor. sec. 19-27-4.
Rig.

Clark County

Watchorn O. & G. Co. No. 3 Stevens, C NW NW sec. 21-32-21w.
Cmtng. cave at 6,420 ft.

Cowley County

Aylward & Trees Oil Co. et al No. 1 Shields, SW cor. Sec. 17-32-6.
Fishing at 1,630 ft.

M. Baden No. 1 Houser, NW SW NE sec. 13-30-3.
Cellar.

Carey et al's No. 1 Short, NE NE NW sec. 6-32-4.
Kansas City lime 2,485 ft.; drlg. 2,490 ft.

Penwest Oil Co. No. 1 Clover, NE SE SE sec. 8-31-7.
Drlg. 200 ft.

Reed & Milligan No. 1 Houston, NW NW SW Sec. 10-31-4.
Spudded.

Roth & Farout No. 1 Guthrie, NW cor. Lot 14, Sec. 30-33-8.
Rigging up.

Roth & Faurot's No. 1 Sherwood, NE NW SW sec. 11-31-4.
Drlg. 750 ft.

Shawver & Wilt No. 1 Baruth, SW NW NE sec. 8-34-3.
Fishing at 650 ft.

Trees Oil Co. No. 1 Garber, NE NE SW Sec. 28-31-5.
Drlg. 550 ft.

Winkler, Koch et al's No. 1-B Harlan, C C S½ NW NE Sec. 13-31-7.
Drlg. 1,608 ft.

Dickinson County

Dutch Oil Co.'s No. 1 Phillips, C NE NW Sec. 15-15-1e.
Shut down 3,535 ft.

Ellis County

Lario Oil & Gas et al No. 1 Walter, SE E SW Sec. 2-12-18w.
Rig.

Shawnee Oil Co. No. 1 Koblitz, SE SW NW Sec. 23-12-18w.
Rigging up.

Twin Drlg. Co.'s No. 1 Goetz, SW SW SE Sec. 3-14-17w.
Oswald 3,273-3,302 ft.; potential produc-

tion 928 bbls. of oil in 24 hrs.; comp.

Ellsworth County

Empire Oil & Refining Co.'s No. 1 Dolehek, SW cor. sec. 7-16-7w. Drlg. 2,805 ft.

Graham County

Cusco Oil Co.'s No. 1 Kaufman, C NE NE Sec. 18-6-24w. Location abd.

Vickers Pet. Co. & Phillips Pet. Co.'s No. 1 Hutton, 430 ft. from E line and 330 ft. from N line of SE¼ Sec. 29-8-22w. Fishing at 940 ft.

Greenwood County

Anderson & McGinnis No. 1 Jensen, SE SE SW sec. 30-23-12. Spudded and S.D.

N. C. Dunn No. 1 Dawson, C NW NE sec. 27-26-13. Spudded.

Mohawk Oil Co.'s No. 1-A Edgar, NE NE SW sec. 2-28-8. Drlg. 3,220 ft.

Harper County

Marathon Oil Co. No. 1 Zellers, C SW NW Sec. 17-35-8w. Drlg. 2,202 ft.

Harvey County

Ok-Tex Oil Co.'s No. 1 Osborne, C SE SE sec. 6-23-3w. Chat 3,434 ft.; drlg. 3,490 ft.

Western Kansas O. & R. Co. No. 1 Warkentin, C SW SW Sec. 1-23-2w. Rig.

Haskell County

Helmerich & Payne's No. 1 Elliott, C SW Sec. 29-29-33w. Standardizing at 2,600 ft.

Kingman County

D. R. Lauck's No. 1 Skilling, SE NE SW Sec. 33-27-8w. Simpson 4,372 ft.; fishing 4,471 ft.

Marion County

Milton et al No. 1 Young, NW NW SE sec. 17-21-3. Location.

Norton County

Helmerich & Payne et al No. 1 Collins, C NE Sec. 11-3-25w. Rotary rig.

Lario O. & G. Co. and Elwell's No. 1 Kennedy, SW SW NW Sec. 22-3-23w. Drlg. 1,831 ft.

Pratt County

Lario O. & G. Co., Ewell and Atlantic O. P. Co. No. 1 Lemon, SE SE NW Sec. 12-29-13w. S.D. at 340 ft.

Skelly Oil Co. et al's No. 1 Comm. Gilchrist, C SE¼ Sec. 7-28-11w. Wilcox 4,340 ft.; Siliceous 4,430 ft.; S.D. at 4,435 ft.

Reno County

Foraker et al's No. 1 Hiett, SE SW NE Sec. 34-24-4w. S.D. at 1,580 ft.

McPherson Drlg. and Derby Oil Co. No. 1 Scheuchzer, NE SE SW Sec. 17-24-4w. Drlg. 1,745 ft.

Olson Drlg. Co. et al No. 1 Krantz, NE NE SE Sec. 13-25-5w. Chat 3,532 ft.; set 8-in. at 3,540 ft.; drlg. 3,710 ft. with 700 ft. of wtr. in hole.

Rose Spring & Foraker No. 1 Brauer, SW SW SE Sec. 4-26-4w. Drlg. 2,200 ft.

Rice County

Day's No. 1 Mason, NW NE NE Sec. 28-21-7w U.R. 6-in. at 3,350 ft.

Grattan et al No. 1 Williams, SW SW NW sec. 17-18-7w. Cellar.

Permian Oil Co. No. 1 Monroe, C NE NE Sec. 9-20-7w. S.D. at 1,110 ft.

Permian Oil Co. No. 1 Conner, C NE NE sec 28-19-7w. K.C. lime 2,890 ft.; H.F.W. at 3,010 ft.; C.O.

C. E. Skiles et al No. 1 Edwards, NW NW NE Sec. 2-18-8w. Drlg. 2,405 ft.

Tabor-Coleman and Atlantic O. P. Co. No. 1 Tharp, C NW NW Sec. 33-21-6w K.C. lime 2,925 ft.; fishing 3,225 ft.

Vernon Oil & Gas and Cusco Oil Co. No. 1 Boldt, NW SW NW Sec. 10-19-10w. U.R. at 568 ft.

L. H. Wentz No. 1 Bushong, SW cor. Sec. 30-21-10w. Drlg. 2,915 ft.

W. E. Witt's No. 1 Hall, SE SE NW sec. 2-20-9w. Rig.

Rooks County

F. A. Gillespie & Sons' No. 1 Low, NE NE NW Sec. 19-8-19w. U.R. 6-in. at 2,500 ft.

Murfin et al's No. 1 Washusta, NE NE SE Sec. 19-9-16w Skid rig 25 ft. north; S.D. at 135 ft.

Pryor & Lockhart's No. 1 Bradley, SW SW NE sec. 31-10-16w. Rigging up.

Rush County

R. G. Berry et al No. 1 Cook, NE NE SE sec. 19-11-12w. Location.

Torrey & Feaster et al No. 1 Winget, SE cor. Sec. 15-16-16w. Moving in material.

Russell County

Central Petroleum Co.'s No. 1 Benso, SE SE SW sec. 9-14-15w. Rig.

Coralena Oil Co. No. 1 Disken, SE cor. Sec. 30-15-13w. Drlg. 820 ft.

Empire O. & R. et al No. 1 Major, SE cor. Sec. 11-14-12w. Location.

Hartman and Blair No. 1 McAllister, SW SW SE sec. 24-13-15w. Moving in material.

Hartman and Blair No. 1 Boxberger "B," NE SE SW sec. 5-14-14w. Bldg. rig.

Hartman & Blair et al No. 1 Boxberger, NW NW SW Sec. 32-13-14w. Rigging up.

P. G. Reynolds No. 1 Fredrickson, SE SW SE sec. 6-12-12w. S.D. at 365 ft.

Sam Murphy et al's No. 1 Enschutz & Schaffer, SW cor. Sec. 10-15-13w. Drlg. 1,775 ft.

Murfin et al's No. 1 Gorham estate, NE NE SE Sec. 29-14-15w. Oswald 3,020 ft.; ¼ bbl. oil per hr. at 3,105 ft.; dry and abd.; T.D. 3,313 ft.

Phillips Petroleum Co. and Sinclair Prairie Oil Co.'s No. 1 Driscoll, NW NW SE sec. 31-15-11w. Oswald 3,031-41 ft.; R.U. standard tools.

Warren Oil Co. No. 1 Bratton, SE cor. Sec. 25-11-13w. Drlg. 1,000 ft.

Winkler & Koch No. 1 McAllister, NE NE SE Sec. 9-12-13w. Rig.

Stafford County

L. A. Farris et al No. 1 Snyder, SE SE NW sec. 3-21-11w. Building rig.

Herndon Drlg. Co. and Atlantic O. P. Co. No. 1 Russell, C SE NW sec. 20-21-14w. Topeka 2,980 ft.; K.C. 3,414 ft.; R.U. standard tools at 3,430 ft.

Sumner County

Helmerich & Payne No. 1 Wright, SE SE NW Sec. 10-33-2. Drlg. 270 ft.

Orcutt & Stewart's No. 1 Newton, SE cor. Sec. 21-30-2. S.D. at 75 ft.

C. Pulse's No. 1 Buss, NW cor. Sec. 13-32-2. K.C. lime 2,590 ft.; drlg. 2,650 ft.

D. J. Wilson et al's No. 1 Clark, 1,320 ft. from W and 25 ft. from S line of NW Sec. 15-35-1w. S.D. at 2,670 ft.

Trego County

Central Commercial's No. 1 Wagg, NW NW SE Sec. 17-13-21w. S.D. at 3,000 ft.

Vickers et al's No. 1 Secor, NW NW NW Sec. 25-15-24w. Coring at 4,512 ft.

Woodson County

Coulter, Davidson et al's No. 1 Paske, NW NW SE sec. 25-25-13. T.D. 1,500 ft.; dry and abd.

GULF COAST WILDCATS

Week Ending December 28

Raccoon Bend—Austin County

Humble O. & R. Co. No. 2-B Bracy, 375 ft. NE of SW line and 250 ft. SE of NW line, Wm. C. White Sur. Rig up.

Humble Oil & Ref. Co. No. 2-B-X Machemehl, 325 ft. NW of longest SE line, 2,171 ft. NE of SW line, Wm. Smeathers Survey. T.D. 4,130 ft.; 7-in. csg. 4,057 ft.; I.P. 76 bbls. per hour, ½-in. choke.

Humble O. & R. Co. No. 8-X Grawunder, 2,000 ft. SW of N cor. and 200 ft. SE of NW line of lease, Wm. C. White Sur. T.D. 4,345 ft.; P.B. and abd. 3,220 ft.

Humble O. & R. Co. No. 4-A-X Machemehl, 2,133 ft. northeasterly along the most westerly NW line from most westerly W cor., thence 141.5 ft. SE at R/A. T.D. 4,140 ft.; top sand at 4,046 ft.; 7-in. csg. at 4,097 ft.; flowing into tanks but no gauge.

Humble O. & R. Co.'s No. 3 H. F. Granen, 682 ft. NE of No. 1, 150 ft. SE of NW¼ of 63.8-ac. tract, Smeathers Sur. Location.

Humble O. & R. Co. No. 11-X Bellville, 180 ft. NW of SE line of tract, 1,399 ft. NE of SW line of Wm. Smeathers Sur. Rig up.

Hastings—Brazoria County

Humble O. & R. Co. No. 2 Nelson, 330 ft. W of E line of 40-ac. lease, H.T.&B. Survey, section 36. Drlg. line 4,495 ft.

Humble O. & R. Co.'s No. 1 J. F. Bridges, center of N 10 acres of 20-ac. lease, A.C.H.&B. Sur. No. 2. Location.

Humble O. & R. Co.'s No. 2 J. F. Bridges, center of S 10 acres of 20-ac. lease, A.C.H.&B. Sur. No. 2. Location.

Stanolind O. & G. Co. No. 1 Cannon, 330 ft. N, 330 ft. E of SW cor. of 40-ac. tract, H.T.&B. Sur. No. 36. T.D. 1,803 ft.; 10¾-in. csg. at 1,737 ft.; W.O.C.

Stanolind O. & G. Co. No. 1 F. M. Berger, 240 ft. S, 330 ft. E of NW cor. of 1,583-ac. tract, H.T.&B. Sur. No. 37. T.D. 6,080 ft.; 7-in. csg. at 5,932 ft.

Stanolind O. & G. Co. No. 3 Guido, 330 ft. S, 330 ft. E of NW cor. of 40-ac. tract, H.T.&B. Sur. No. 36. Location.

Stanolind O. & G. Co. No. 3 Shaw, 240 ft. N, 330 ft. W of SE cor. of 120-ac. tract, H.T.&B. Sur. No. 36. T.D. 6,080 ft.; 7-in. csg. at 5,944 ft.; testing.

Stanolind O. & G. Co. No. 4 Surface, 320 ft. S, 990 ft. E of most westerly NW cor. of 75.9-ac. tract, A.C.H.&B. Sur. No. 2. T.D. 6,080 ft.; I.P. 589 bbls. per day, ¼-in. choke; T.P. 775 lbs.; C.P. 750 lbs.

Stanolind O. & G. Co. No. 6 Sneed, 436 ft. at R/A to most southerly N line and 361 ft. R/A to most westerly E line of 225-ac. lease, A.C.H.&B. Sur. No. 2. T.D. 6,080 ft.; 7-in. csg. at 6,009 ft.; W.O.C.

Stanolind O. & G. Co.'s No 4 Drake, 330 ft. S, 330 ft. E of most westerly NW cor. of Drake 120-acre tract, H.T.&B. Sur. No. 36. T.D. 5,880 ft.; 7-in. csg. 5,660 ft.; I.P. 375 bbls. per day, ¼-in. choke; T.P. 500 lbs.; C.P. 700 lbs.

Stanolind O. & G. Co.'s No. 2 Drake, 330 ft. N, 1,650 ft. W from SE cor. of 120-ac. lease, H.T.&B. Sur. No. 36. 10¾-in. csg. at 1,840 ft.

Manvel—Brazoria County

Jay Simmons' No. 1 Wilson, center of Lot 25, H.T.&B. Sur. No. 23. Location.

Sinclair Prairie Oil Co.'s No. 1 Michaelsen, 330 ft. E of W line and midway of N and S lines, Lot 19, H.T.&B. Sur. No. 24. Location.

J. W. Sorrells' No. 1 Swift, Blk. 21, Abst. 318, H.N. Little Sur. Derrick.

Texas Co. No. 2 J. L. Lemmer, S 48 degrees, E 990 ft. and N 42 degrees, E 330 ft. from W corner of 150-ac. lease, T. Sproggins Survey. Location.

Texas Co. No. 13-A Belcher, S 48 deg., E 1,131 ft. and S 42 deg. W, 330 ft. from the N cor. of lease, H. N. Little Sur. Drlg. shale and lime 3,973 ft.

Texas Co. No. 18-B Belcher, 1,583 ft. N, 42 deg. E and 956 ft. N, 48 deg. W from S cor. of H. N. Little Sur. Drlg. shale and lime 2,887 ft.

Texas Co. No. 20 Houston Oil Field Assn., 330 ft. E and 247 ft. S of NW cor. of Lot 21-A, A.C.H.&B. Sur. No. 91. Location.

Texas Co's No. 19 Houston Oil Field Assn., 330 ft. N, 76 ft. from SW cor. of Lot No. 31, A.C.H.&B. Sur. No. 91. T.D. 4,253 ft.; P.B. 4,142 ft.; 7-in. csg. 4,198 ft.; tested salt water, P.B. to 2,050 ft.; sidetracked at 3,553-89 ft.

Texas Co.'s No. 1 Doonan, 990 ft. N, 42 deg. E and 330 ft. S, 48 deg. E from W cor. of Lot 17, T. Sproggins Sur. Drlg. shale 6,790 ft.

Texas Co.'s No. 2 Dawson, 247 ft. S, 241 ft. W of NE cor. of Lot 58, H.T.&B. Sur. No. 23. Location.

Pledger—Brazoria County

Humble O. & R. Co. No. 2 McFarland, 725 ft. SN line of survey, 1,295 ft. WE line, Lot 5, on line between Lots 5 and 6, of W. C. Carson Sur. Location.

West Columbia—Brazoria County

Varner Oil Co.'s No. 1 Hogg, 800 ft. from most easterly W line and 3,600 ft. from N line of 400-ac. tract, M. Varner Sur. S.D. 1,010 ft.

Port Lavaca—Calhoun County

Crown Central Oil Co.'s No. 1 Wilson, 600 ft. NW line, in center of tract, A. Esparza Sur. T.D. 6,284 ft.; I.P. 18 bbls. per hour, ¼-in. choke; T.P. 950 lbs.; C.P. 1,350 lbs.

Anahuac—Chambers County

Gulf Prod. Co. No. 2 Knowles, 200 ft. EW line, 431 ft. NS line of Sec. No. 48. Drlg. shale and lime 5,477 ft.

Humble O. & R. Co. No. 3 Engels, 466 ft. S of N line, 466 ft. E of W line of H.& T.C. Survey No. 50. Location.

Humble O. & R. Co. No. 7 Engels, 466 ft. N of S line, 1,009 ft. E of No. 6, H.&T.C. Survey, section 50. Location.

Humble O. & R. Co. No. 9 Broussard, 466 ft. W of E line, 1,337 ft. S of N line of H.&T.C. Survey No. 62. Rig up.

Humble Oil & Refg. Co. No. 1 H. A. Grippon, 466 ft. E of W line, 466 ft. S of N line of H.&T.C. Survey, section 51. Location.

Humble O. & R. Co. No. 2 Max H. Engels, 826 ft. S of No. 2, 492 ft. N of S line, sec. 50, H.&T.C. Sur T.D. 7,082 ft.; top sand 6,850 ft.; 7-in. csg. at 7,041 ft.; I.P. 28 bbls. per hour, ½-in. choke; T.P. 1,250 lbs.; C.P. 1,350 lbs.

Humble O. & R. Co.'s No. 8 Clark, 460 ft. WE line, 2,212 ft. NS line of H.T.&C., Sec. 57. Rig up.

Humble O. & R. Co. No. 1 W. C. Tyrell, 466 ft. WE line, 466 ft. SN line of H.&T. C. Sur., Sec. 52. T.D. 7,083 ft.; top sand 6,890 ft.; running csg.

Humble O. & R. Co. No. 2 Tyrell, 1,922 ft. SNL, 1,317 ft. WE line of H.&T.C. Sur., sec. 52. Location.

Humble O. & R. Co.'s No. 10 Middleton, 466 ft. from N and E lines of A. Milton Sur. No. 58. T.D. 7,085 ft.; 7-in. csg. 7,041 ft.; I.P. 26.78 bbls. per hour, ¼-in. choke; T.P. 1,075 lbs.; C.P. 1,950 lbs.

Humble O. & R. Co. No. 1 H. E. Marshall, 466 ft. N of S line, 466 ft. E of W line of 160-ac. lease, H.&T.C. Sur., sec. 50. Rig up.

Humble O. & R. Co. No. 13 Middleton, 873 ft. E of No. 48, 466 ft. N of S line of H.&T.C. Survey, sec. 58. Drlg. sandy lime 5,400 ft.

Humble O. & R. Co., No. 6 White, 825 ft. N of No. 5, 466 ft. E of W line of lease, J. McGahey Survey. Location.

Humble O. & R. Co. No. 3 Zappe, 859 ft. N of No. 1, 466 ft. W of E line of H.&T.C. Sur., sec. 51. Location.

Humble O. & R. Co. No. 5 White, 466 ft. EW line, 825 ft. N of No. 4 White, J. McGahey Sur. T.D. 7,094 ft.; top sand 7,068 ft.; 7-in. csg. at 7,052 ft.; W.O.C.

Humble O. & R. Co.'s No. 3-B Broussard, 869 ft. E from No. 2-B, 466 ft. S of N line, Sec. 59, H.&T.C. Sur. Spudded.

Humble O. & R. Co.'s No. 6 Clark, 1,333 ft. N of S line, 466 ft. E of W line of Sec. 57, H.&T.C. Sur. T.D. 7,093 ft.; top oil sand at 7,078 ft.; 7-in. csg. at 7,070 ft.; W.O.C.

Humble O. & R. Co.'s No. 2 Broussard, 2,332 ft. E of W line, 2,332 ft. N of S line of Sec. 63, H.&T.C. Sur. Location.

Sun Oil Co. No. 5 White, 200 ft. WE line, 467 ft. NS line of lease and survey, James McGahey Sur. Drlg. shale 6,930 ft.

Sun Oil Co. No. 6 White, 933 ft. W of No. 4, 517 ft. SN line of lease, James McGahey Sur. Location.

Barbers Hill—Chambers County

Sinclair Prairie No. 19 Wilburn, 150 ft. W of No. 18, 50 ft. SN line of lease, Henry Griffith Sur. T.D. 1,102 ft.; rock, cmtd. cavity at 1,051 ft.

Sun Oil Co.'s No. 18 Wilburn, 80 ft. N, 75 ft. E of SW cor. of tract, Wm. Hodges Sur. Drlg. shale and lime 3,646 ft.

Stanolind Oil & Gas Co. No. 20 Wilburn, 50 ft. E of W line, 50 ft. S of N line of tract, Wm. Hodge Sur. Drlg. shale 2,418 ft.

Stanolind O. & G. Co.'s No. 29 Chambers, 224 ft. E of No. 21 W. Bloodgood Sur Derrick.

Stanolind O. & G. Co.'s No. 31 Chambers, 20 ft. S, 50 ft. W of NW cor. of Sur. A lease. T.D. 5,543 ft.; sand with show of oil.

Texas Gulf Prod. Co. No. 7 Wilburn, 70 ft. W of E line, Wm. Hodge Sur. Drlg. salt at 2,138 ft.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 1 Cooper Heirs, 466 ft. from S and E lines, 140-ac. lease, S. Burney Sur. Location.

Stanolind O. & G. Co.-State No. 1 Turtle Bay, 466 ft. S and E from SW cor. of Middleton 120-ac. tract. Location.

Big Creek—Fort Bend

Gulf Prod. Co.'s No. 66 Davis, 2,760 ft. NE along SE line of lease from W corner of Texas Co.'s 300-ac. lease, 1,385 ft. NW at R/A, M. Young Sur. Drlg. shale 4,705 ft.

Marten Drlg. Co. No. 1 W. C. Moore, 25 ft. S of NW line and 111 ft. SW along NW line from N cor. of Atlantic 25-ac. Moore lease, B. Wickerson Sur. Rig up.

Blue Ridge—Fort Bend County

Gulf Prod. Co. No. 18 "B" Basset-Blackeley, 350 ft. E and S of NW cor. of Lot 5, Blk. "G," E. Drew Sur. Drlg. shale 4,705 ft.

Texas-State Oil Co. No. 2 Bassett-Blackeley, 75 ft. NS line, 350 ft. EW line, Lot 6, Blk. "G," E. Drew Sur. Rig up.

Boling—Fort Bend County

Texas Co. No. 15-A Taylor, 683 ft. SE of No. 11-A, 683 ft. NW of No. 12-A, S. F. Austin Sur. Drlg. sand, shale and lime at 3,670 ft.

Orchard—Fort Bend County

Gulf Refg. Co. No. 45 Moore, 1,050 ft. E along S line from SW corner of Survey, 1,149 ft. N at R/A, German Immigration Sur. No. 8. Rig up.

Gulf Prod. Co.'s No. 2-A Moore, Burnap Sur. Drlg. lime rock 1,350 ft.; no report.

Gulf Prod. Co. No. 44 Moore, 500 ft. NW of No. 42, Leo Burknapp Sur. Drlg. lime rock 4,239 ft.

High Island—Galveston County

Stanolind O. & G. Co. No. 1-C Marrs-McLean, 450 ft. S of N line of Lot 5, M. Dunman Sur. Drlg. shale 4,310 ft.

Stanolind O. & G. Co. No. 5 B.&N.O., 133 ft. S, 150 ft. E of NE cor. of Fitzsimmons Sur. Rig up.

Stanolind O. & G. Co. No. 50 Cade, 350 ft. WE line, 950 ft. NS line of 460-ac. tract, N. Fitzsimmons Sur. Drlg. shale 4,810 ft.

Stanolind O. & G. Co. No. 51 Cade, 690

ft. SN line, 620 ft. WE line of 460-ac. tract, Fitzsimmons Sur.
Drlg. shale 4,212 ft.

Dickinson—Galveston County

Humble O. & R. Co. No. 1-B San Leon, 381 ft. SE of NW line and 300 ft. SW of NE line of S½ of Blk. 102, A. E. Edwards Sur.
T.D. 8,295 ft.; D.S.T. at 8,030-71 ft.; recovered 2,700 ft. of salt water; coring sand 8,322 ft.

Humble O. & R. Co. No. 2 Anderson, 352 ft. WE line, 777 ft. EW line and 338 ft. NS line, Lot 2, Blk. 15, J. Sellers Sur.
Drlg. shale 7,646 ft.; 9⅝-in. csg. 7,408 ft.

Humble O. & R. Co. No. 2-B Bayou Dev. Co., 600 ft. EW line of lease, 1,566 ft. due S of No. 1-B, John Sellers Sur.
Derrick.

Humble O. & R. Co. No. 3-B Stewart, 3,954 ft. S along E line from NE cor. and 577.2 ft. W at right angles, J. Sellers Sur.
T.D. 8,618 ft.; P.B. to 8,504 ft.; drilled to 8,582 ft. and P.B. to 8,332 ft.; drlg. in sidetracked hole at 8,366 ft.; shale.

Humble O. & R. Co. No. 4-B Stewart, 584 ft. EW line, 933 ft. due S of No. 3-B, John Sellers Sur.
Location.

Humble O. & R. Co. No. 5-A Stewart, 466 ft. W of E line of Stewart "A" Lease, 5,500 ft. due S of No. 2-A Stewart, John Sellers Sur.
Rig.

Humble O. & R. Co. No. 6-A Maco Stewart, 6,087 ft. S of NE cor., 1,390 ft. W of E line and 1,390 ft. E of W line and 466 ft. N of S line of Stewart.
7-in. csg. 8,974 ft.; T.D. 9,142 ft.; showed salt water; C.P. 2,800 lbs.; pulled and P.B. to 8,775 ft.; W.O.C.

Pure Oil Co. No. 2 J. W. Shelor, 779 ft. N, 182 ft. W of N. I. Shelar, B.B.B. &C. Sur.
T.D. 8,481 ft.; T.D. of sidetracked hole 8,092 ft.; waiting on overshot.

Stanolind O. & G. Co. No. 2 State, 1,369 ft. E of No. 1 State.
T.D. 9,135 ft.; 7-in. csg. 9,120 ft.; P.B. to 9,093 ft.; drilled out to 9,095 ft.; pulled tubing; preparing to perforate.

Stanolind O. & G. Co. No. 3 State, 633 ft. SE of No. 1, 218 ft. N of S bank of Dickinson Bayou Sur., Tract No. 2.
T.D. 8,132 ft.; 7-in. csg. 8,080 ft.; P.B. and drilled to 8,050 ft.; perforated from 8,039-47 ft.; swabbing.

Stanolind O. & G. Co. No. 4 State, 935 ft. S. 11 deg. E, 15 ft. E of Pure Oil Co. No. 1 Shelor tract No. 3.
Derrick.

Stanolind O. & G. Co. No. 5 State, 1,847 ft. S, 19 deg. 53 ft. E of Humble No. 1 Townes, Tract 3.
Waiting on derrick.

Turman Oil Co. No. 2 Piazza, 231 ft. E of E line, 730 ft. S of N line, 945 ft. E of No. 1, J. S. Sherman Sur.
Location abd.

Batson—Hardin County

John Deering et al No. 3 Cruse, 175 ft. due W and 25 ft. N of No. 2 Cruse, F. H. Green Sur.
Drlg. shale and lime at 3,269 ft.

D & L. Prod. Co. No. 1 Hooks, 100 ft. S of N line, 300 ft. E of W line 26.75-ac. tract, W. Donoho Sur.
T.D. 6,502 ft.; surveying hole; no report.

John Deering et al No. 1 J. W. Whitley, 160 ft. SN line, 240 ft. EW line of 130-ac. tract, W. Donoho Sur.
S.D. 780 ft.; rigging up heavier rig.

Shell Pet. Corp. No. 2 Jackson, 190 ft. W EL, 395 ft. N of SL of lease, W. Donoho Sur.
Drlg. shale and lime at 3,979 ft.

Texas Co. No. 2 Christian, 510 ft. S, 460 ft. E of NW cor. of Willis Donoho League.
T.D. 4,604 ft.; running 7-in. csg.; set 28 ft. of screen; testing.

Saratoga—Hardin County

Hines Oil Co. No. 2 Caswell, 8,600 ft. N of S line, 1,376 ft. E of W line of B.B.B.&C. R.R. Co. Sur. No. 72.
Drlg. shale 4,240 ft.

Pierce Junction—Harris County

Wright et al No. 1 Gulf "Jones fee," 100 ft. SN line and 25 ft. EW line of N 12 acres of 25-ac. lease, B.B.B.&C. Sur.
T.D. 4,032 ft.; top sand 4,009 ft.; running csg.; no report.

J. S. Abercrombie et al No. 7 John Ritter, 535 ft. E of W line, 156 ft. N, 17 deg. 42 ft. W at right angles, James Hamilton Sur.
Coring sand at 4,942 ft.; no report.

Humble—Harris County

Texas Co. No. 39 Koehler, 1,281 ft. S and E and 150 ft. N of SW cor. of lease, J. Stevenson Sur.
T.D. 3,128 ft.; 7-in. csg. at 3,097 ft.; preparing to pump.

Mykawa—Harris County

Danciger O. & R. Co. No. 4 Minnetex, 300 ft. WE line, 250 ft. SN line of Lot 192, Wm. Lovett Sur.
T.D. 5,155 ft., made D.S.T. from 4,910-24 ft.; showed 3,000 ft. oil, ¼-in. choke; set screen and showed salt water; P.B. to 4,875 ft.; perforated from 4,833-50 ft.; tested; dry and S.D.

West Prod. Co. No. 6 Irwin, 870 ft. S of N line, 403 ft. W of E line of lease, W. B. Walker Survey.
Rig up.

South Houston—Harris County

Stanolind O. & G. Co. District No. 22 (workover).
Rig up.

Stanolind O. & G. Co. District 27, No. 1, center Lot 1, Blk. 102.
T.D. 4,622 ft.; cmtd. 9⅝-in. csg. at 4,512 ft.; I.P. 118 bbls. per day, ¼-in. choke; C.P. 1,300 lbs.

Stanolind O. & G. Co. No. 1 Griffin, 250 ft. E, 150 ft. S of the NW cor. of J. T. Griffin et al, Tract 153, H.T.&B. Sur. No. 36.
Location.

Tomball—Harris County

Amerada-Stanolind No. 2 Felber, 466 ft. NW line, 466 ft. SW line of 105-ac. lease in E. Smith Sur.
Rig up.

Humble O. & R. Co. No. 1-B Holderrieth, 388.7 ft. W of most westerly E line of C. N. Pillot Sur.
Drlg. shale and lime 5,454 ft.

Humble O. & R. Co. No. 1 Tomball Townsite Unit No. 5, 180 ft. SN line and 75 ft. WE line, Blk. 97, J. House Sur.
T.D. 5,580 ft.; I.P. 5.46 bbls. per hour, ¼-in. choke; T.P. 225 lbs.; C.P. 600 lbs.

Humble O. & R. Co. No. 11 Reid, 466 ft. E of W line, 466 ft. N of S line of lease, C. Goodrich Survey.
T.D. 5,569 ft.; top sand 5,553 ft.; 7-in. csg. at 5,564 ft.

Shell Pet. Corp. No. 3 Rudel, 466 ft. W of most easterly E line, 420 ft. from the N and S lines of 30-ac. tract, Jesse Pruitt Sur.
Location.

Sun Oil Co. No. 4 Metzler, 466 ft. E of most westerly W line and 250 ft. N of most northerly S line of lease, C. N. Pillot Sur.
Drlg. shale 946 ft.

Texas Co. No. 2 Hillegeist, 425 ft. E of W line of 199-ac. tract, J. House Sur.
T.D. 5,615 ft.; 7-in. csg. at 5,615 ft.; W.O.C.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 2-A Pipkin & Davis, 1,430 ft. SW of NE cor. of Pipkin & Davis lease along SE line of same and 50 ft. SE at right angles, William McFaddin Sur.
T.D. 6,698 ft.; washing to bottom to rerun screen and test.

Fannett—Jefferson County

Blue Eagle Oil Co. No. 2 Junker, 225 ft. due S from No. 1 Junker, W. H. Smith Sur.
Drlg. shale 3,555 ft.

Blue Eagle Oil Co. No. 1 Junker, 50 ft. each way out of NW cor. of lease, W. H. Smith Sur.
T.D. 4,121 ft.; I.P. 60 bbls. per day.

Gulf Prod. Co. No. 6 Junker, 920 ft. W along N line of 280-ac. tract from NE cor. and 580 ft. S at R/A, Wm. Smith Sur.
Drlg. sandy shale 4,157 ft.

Cleveland—Liberty County

Gulf Prod. Co. No. 12-C Kirby, 1,234 ft. N, 2,333 ft. E from NE cor. of J. Eldridge Sur.
Drlg. shale 5,734 ft.

Esperson—Liberty County

General Crude Oil Co. No. 1 Halvaty, 467 ft. out of SE cor. of F. M. Gardner Sur.
T.D. 8,809 ft.; drill pipe stuck.

General Crude Oil Co. No. 12 Davis, 1,200 ft. NS line and 330 ft. WE line of Kokernot Sur.
Drlg. shale and lime 2,507 ft.

General Crude Oil Co. No. 22 Esperson, 550 ft. N along W line of survey from SE cor. of D. K. Kokernot Sur., thence 1,185 ft. E at right angles.
Drlg. shale 4,345 ft.

General Crude Oil Co. No. 23 Esperson, 1,200 ft. N along W line of Survey from SE corner of Kokernot Sur, thence 330 ft. E at R/A Fisher Sur.
Location.

Hankamer—Liberty County

Cretaceous Oil Co. No. 4 Exzell, 125 ft. WE line and 132 ft. NS line of 70-ac. tract, Levi Barrow Sur.
Rig up.

Eastman-Ward No. 1 R. E. Lee, 115 ft. from N line of lease and 76 ft. W of west bank of White Bayou, Geo. Stengler Sur.
S.D. 2,707 ft.

Gulf Prod. Co. No. 1-A R. J. Weiser, 770 ft. W along S line from SE cor. of survey and 422 ft. at R/A, George Stingler Sur.
Drlg. shale 4,571 ft.

Hull—Liberty County

W. B. Flynn No. 8-B Able, 50 ft. S, 300 ft. W of NE cor. of old Humble 10-ac. tract.
S.D. 1,000 ft.

South Liberty—Liberty County

R. R. Lawrence No. 1 Vandeventer, 200 ft. SN line, 100 ft. EW line of 121-ac. tract, D. Winchey Sur.
T.D. 3,661 ft.; I.P. 250 bbls. per day.

Markham—Matagorda County

Powers Prod. Co. No. 4 Myers, 225 ft. N of No. 2, 255 ft. EW line of lease, Blk. No. 1, Wm. Haddin Sur.
Location.

Conroe—Montgomery County

Sun Oil Co. No. 10 Keystone Mills.
Derrick.

Sun Oil Co. No. 19 Keystone Mills.
Drlg. shale 695 ft.

Sun Oil Co. No. 28 Foster
T.D. 5,144 ft.; I.P. 185 bbls. in 19 hrs., ¼-in. choke; C.P. 1,000 lbs.; T.P. 800 lbs.

Port Neches—Orange County

Texas Co. No. 11 Kuhn, 620 ft. N, 330 ft. E of SW cor. of 257.74-ac. tract, Mary E. Hall Sur.
T.D. 6,352 ft.; P.B. to 5,871 ft.

Livingston—Polk County

Hawkeye Pet. Co. No. 3 Howard, 466 ft. out of NW cor. of 75-ac. tract, A. Viesca Sur.
Location.

Hawkeye Pet. Co. No. 1 Nelson, 330 ft. N of S line, 460 ft. E of W line of 300-ac. tract, A. Viesca Sur.
T.D. 4,263 ft.; 7-in. csg. at 4,223 ft.; swabbed well and filled up 500 ft. with oil in 12 hrs.; S.D.

Humble O. & R. Co. No. 16 Granbury, 1,399 ft. from NW and 466 ft. from NE lines of Block No. 11, A. Viesca Sur.
Top sand 4,152-4,207 ft.; 7-in. csg. at 4,194 ft.; I.P. 227 bbls. per day, ¼-in. choke; T.P. 500 lbs.; C.P. 1,150 lbs.

Humble O. & R. Co. No. 22 Granbury and Smith, 933 ft. SE of No. 16 and 466 ft. from NE line of Blk. 11, A. Viesca Sur.
Location.

Humble O. & R. Co. No. 24 Granbury and Smith, 933 ft. SE of No. 21 and 933 ft. SW of No. 1, A. Viesca Sur.
Location.

Ownby-Shell Pet. Corp. No. 6 Pratt, 660 ft. S of No. 1, 330 ft. W from road, A. Viesca Sur.
Drlg. shale 3,598 ft.; 9⅝-in. csg. at 938 ft.

Colette Creek—Victoria County

American Liberty Oil Co. No. 1 Camp, 330 ft. out of S cor. of 30-ac. lease, R. Manchola Sur.
T.D. 2,881 ft.; 7-in. csg. 2,859 ft.; comp. as gas well.

Placedo—Victoria County

American Liberty No. 1 Gray, 3,960 ft. SWL, 500 ft. SEL of S.A.&M.G. Sur.
T.D. 4,768 ft.; oil and sand; 7-in. csg. at 4,750 ft.; W.O.C.

Barnsdall Oil Co. No. 2 W. R. Smith, 1,365 ft. from NE line, 828 ft. from SE line, Lot 7, A. Murray Survey.
Derrick.

Barnsdall Oil Co.-Costa Oil Co. No. 1 Wright, 330 ft. each way out of N cor. of 49.62-ac. tract, S.A.&M.G. Survey No. 8.
T.D. 4,769 ft.; 7-in. csg. 4,758 ft.; W.O.C.

Barnsdall Oil Co. No. 3 J. M. Pickering et al, 330 ft. from R.R., 612 ft. from No. 2, offset to Smith & Gulf No. 1 Boehm, S.A.&M.G. Sur. No. 5.
Rig up.

Barnsdall-Felmont Oil Co. No. 1 Pickering and Roos, 330 ft. NE, 530 ft. SE of No. 3. S.A.&M.G. Sur. No. 5.
T.D. 5,500 ft.; tested salt water on D.S.T.

Eastern Texas Prod. Co. No. 1 Krappa, 330 ft. out of S cor. of 40-ac. tract, Lot 12, Wm. Rupley Sur.
13⅜-in. csg. at 355 ft.; W.O.C.

C. F. McGrew No. 1 Hadley, center of 20-ac. lot, S.A.&M.G. Sur., Sec. 9, Blk. 49, Lots 1 and 2.
Location.

Smith & Gulf No. 2 Wright, 330 ft. each way out of W cor. of lease, S.A.&M.G. Sur. No. 5.
T.D. 4,768 ft.; 7-in. csg. at 4,756 ft.; Temp. abd.

Westgate Oil Co. No. 2 Henderson & Pickering, 700 ft. NE, 320 ft. SE of Lot 125. S.A.&M.G. Sur., Wm. Rupley Sur.
10¾-in. csg. at 786 ft.; W.O.C.

Westgate Oil Co. No. 1 Muska, 330 ft. out of N cor. of 9.54-ac. tract, Lot 78, S.A. &M.G. Sur.
T.D. 4,778 ft.; 7-in. csg. 4,758 ft.

Clay Creek—Washington County

Sun Oil Co. No. 12 Clay, 1,050 ft. NW line, 150 ft. SW line of 218-ac. tract, 300 ft. SE of No. 11, J. F. Perry Sur.
T.D. 1,354 ft.; I.P. 210 bbls. per day.

Louise—Wharton County

Pure Oil Co. No. 2 Wilder, 500 ft. SE from NW cor., 500 ft. NE from SW line of 160-ac. tract, T. W. Hurd Sur., Sec. 28.
Rig up.

Pure Oil Co. No. 5 Kountze, 330 ft. from SE line, 466 ft. from SW line, Morris and Cummings Sur.
T.D. 5,160 ft.; 7-in. csg. at 5,124 ft.; I.P. 37 bbls. per day, 13/64-in. choke; T.P. 1,550 lbs.; C.P. 900 lbs.

Pickett Ridge—Wharton County

Texas Co. No. 7-A Pierce, 1,000 ft. N, 9 deg. 18 ft. E from No. 2-A, and 1,000 ft. N, 73 deg. 18 ft. W from No. 3-A, I.&G.N. Sur.
T.D. 4,709 ft.; 7-in. csg. at 4,700 ft.; W.O.C.

Texas Co. No. 8-A Pierce, 9 deg. 18 ft. E, 1,000 ft. from No. 7-A, N, 32 deg. W, 150 ft. S of No. 3-A, I.&G.N. Sur. No. 39.
16-in. csg. at 38 ft.; drlg. sand and boulders at 771 ft.

SOUTH LOUISIANA FIELDS

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 11 Bay St. Elaine, 5,098 ft. S and 4,850 ft. E of NW corner of Section 17-22s-18e.
Location.

Black Bayou—Cameron Parish

Shell Pet. Corp. No. 28 Watkins.
Cutting and pulling screen at 4,389 ft.

Shell Petroleum Co.'s No. 29 Watkins, 2,900 ft. E, 650 ft. S of NW cor. of Sec. 17-12s-12w.
Coring shale 4,723 ft.

Shell Petroleum Co.'s No. 30 Watkins, 3,250 ft. W, 920 ft. S of NE cor. of Sec. 18-12s-17w.
Coring sandy shale 3,941 ft.

Shell Pet. Corp.'s No. 26 Watkins, 3,300 ft. W, 100 ft. S of NE cor. of Sec. 18-12s-12w.
Location.

Cheneyville—Rapides Parish

Amerada Pet. Corp. No. 1 Well, 495 ft. out of the NW cor. of Tract 2, Sec. 53-1s-2e.
Bldg. derrick.

Amerada Pet. Corp. No. 2 Well, 495 ft. S, 495 ft. E of NW cor. of Tract No. 2, sec. 53-1s-2e.
Location.

Texas Co. No. 1 Well, 495 ft. W, 550 ft. N of No. 1 Well, sec. 53-1s-2e.
Moving in.

Caillou Island—Terrebonne Parish

Texas Co.'s No. 26 State, 172 ft. from S line, 1,796 ft. from W line, Sec. 17-23s-20e.
S.D. 4,305 ft.

Tepetate—Acadia Parish

Continental Oil Co. No. 1 C. O. Ardoin, C of 20-ac tract in sec. 28-7s-2w.
Location.

Continental Oil Co. No. 1 Johnson, 660 ft. W, 330 ft. N of SE cor. of NE¼ of irregular sec. 30-7s-2w.
Location.

Continental Oil Co. No. 1 D. J. Miller, C of 20-ac. tract, being W½ of NE¼ of SW¼ of sec. 28-7s-2w.
Bldg. derrick.

Continental Oil Co. No. 1 P. W. Miller, 990 ft. N, 660 ft. W of NE cor. of SW¼ of sec. 28-7s-2w.
Location.

Continental Oil Co.'s No. 1 Kern, 1,610 ft. S, 660 ft. W of SE cor. of Sec. 29-7s-2w.
T.D. 8,318 ft.; 5¾-in. csg. at 8,310 ft.; bailing csg. and testing.

Continental Oil Co.'s No. 1 Macabee, 990 ft. N, and 660 ft. E of SW cor. of 160-ac. tract, Sec. 32-7s-2w.
Drlg. shale 8,900 ft.

Darrow—Ascension Parish

Humble O. & R. Co. No. 5 Gumble, 964 ft. NE from S cor. of section at R/A to SW line of Sec. 33-10s-2e.
T.D. 6,430 ft. in shale; fishing.

Humble O. & R. Co. No. 9 Gumble, 2,445 ft. NW of SE cor. of Sec. 30-10s-2e, 540 ft. NE at R/A.
T.D. 5,436 ft.; D.S.T. from 5,355-5,411 ft.; recovered 180 ft. of drilling mud; reaming.

Sorrento—Ascension Parish

Athens Oil Co.'s No. 3 United Land, 400 ft. W of No. 2, Sec. 15-10s-4e.
Reaming to set csg. at 4,323 ft.

Cameron Meadows—Cameron Parish

Burton Sutton Oil Co. No. 11 School Land, 500 ft. N of S line, and 423 ft. W of Sec. 16-14s-13w.
T.D. 2,926 ft.; 10-in. csg. at 540 ft.

Burton Sutton Oil Co.'s No. 4 School Land, Sec. 16-14s-13w.
Derrick.

Magnolia Pet. Co. No. 15 Cameron Meadows, 650 ft. S of N line of Sec. 21, 500 ft. SE of No. 9, Sec. 21-14s-13w.
T.D. 5,262 ft.; top oil sand at 5,254 ft.

Choctaw Dome—Iberville Parish

Standard Oil Co.'s No. 3 Myrtle Grove Wilburt, 500 ft. N, 725 ft. W of SE cor. of SW¼ of Sec. 52-9s-11e.
Drlg. gumbo 1,874 ft.

Standard Oil Co.'s No. 6 Gay, 400 ft. N, 50 ft. W of No. 5, Sec. 52-9s-11e.
Comp. canal.

Edgerly—Calcasieu Parish

J. G. Sutton No. 16 Lillard, Sec. 28-9s-11w.
T.D. 1,520 ft., 7-in. csg. 1,461 ft.; prepare to pump.

Four Isle—Terrebonne Parish

Texas Co.'s No. 6 State, 1,933 ft. S, 2,100 ft. W of NE cor. of Sec. 23-21s-16.
Drlg. shale and lime at 7,820 ft.

Texas Co.'s No. 5 State, 585 ft. S, 2,327 ft. E of NW cor. of Sec. 24-21s-16e.
Location.

Garden Island Bay—Plaquemines Parish

Texas Co.'s No. 17 State, 1,970 ft. N, 1,648 ft. E of SW cor. of Sec. 37-23s-33e.
S.D. 4,912 ft.

Texas Co.'s No. 18 State, 1,268 ft. N, 2,318 ft. E of SW cor. of Sec. 37-23s-33e.
Location.

Texas Co.'s No. 13 State, 3,291 ft. S and 1,604 ft. W of NE cor. Sec. 107-23-32.
Rig up.

Gillis—Calcasieu Parish

Fohs Oil Co. No. 9 Castle, 517 ft. S and 330 ft. E of No. 3, Sec. 13-9s-8w.
Derrick.

Fohs Oil Co. No. 1 Wasby, Sec. 14-9s-8w.
Drlg. shale 6,688 ft.

Texas Co. No. 7 Nickerson, Sec. 12-9s-8w.
S.D. 6,742 ft.

Union Sulphur Co. No. 5 Mayo-Reeves, 810 ft. E and 447 ft. N of SW corner of NW¼ Sec. 19-9s-6w.
Drlg. shale and lime 4,320 ft.

Union Sulphur Co. No. 5 Castle, 426.6 ft. E, 574.3 ft. N of SW cor. of SE¼ of NE¼ of sec. 14-9s-8w.
Bldg. derrick.

Union Sulphur Co. No. 6 Castle, 326 ft. S, 3,510 ft. W of NE cor. of sec. 13-9s-8w.
Location.

Union Sulphur Co. No. 15 State, 225 ft. S.

164 ft. W of NE corner of NW corner of NW¼ of Sec. 12-9s-8w.
Location.

Union Sulphur Co. No. 16 State, 1,100 ft. N, 1,443 ft. W of SE corner of NW¼ of Sec. 11-9s-8w.
Location.

Union Sulphur Co. No. 17 State, 241 ft. N and 689 ft. E of SE corner of NW¼ of NW¼ of Sec. 12-9s-8w.
Location.

Union Sulphur Co.'s No. 4 Castle, 330 ft. N, 1,850 ft. W of SE cor. of NE¼ of Sec. 14-9s-8w.
Abandoned 7,260 ft.

Union Sulphur Co.'s No. 7 State, 1,316 ft. N, 199 ft. E of SW cor. Sec. 12-9s-8w.
Location.

Union Sulphur Co.'s No. 13 State, 1,464 ft. E, 1,088 ft. N of SW cor. of Sec. 12-9s-8w.
Location.

Union Sulphur Co. No. 14 State, 1,462 ft. N, 69 ft. W of SE cor. NE¼ of Sec. 11-9s-8w.
T.D. 6,773 ft.; 5-in. csg. at 6,725 ft.; W.O.C.

Gueydan—Vermilion Parish

Pure Oil Co.'s No. 6 Alliance Trust, 667 ft. E, 1,787 ft. S line of lease, Sec. 14-11s-1w.
T.D. 9,545 ft.; milling on csg. 5,189 ft.

Hackberry—Cameron Parish

Browning Oil Co.'s No. 1 Ellender, Sec. 27-12s-10w.
T.D. 3,354 ft.; 6⅝-in. csg. at 3,340 ft.; S.D. at 3,356 ft.

Gulf Ref. Co. No. 20 Irwin, 1,605 ft. W. 1,225 ft. N of SE cor. of sec. 12-12s-10w.
Rig up.

Texas Co.'s No. 11 State, 961 ft. E, 153 ft. N of NE cor. of Sec. 13-12s-9w (workover).
T.D. 6,602 ft.; 5-in. csg. 6,523 ft.; set screen to test.

Texas Co.'s No. 18 State, N 13 deg. 30 ft. W, 4,800 ft. from No. 13, Sec. 44-12s-9w.
Drlg. sand and shale at 7,508 ft.

Iowa—Jefferson Davis Parish

Shell Pet. Corp.'s No. 19 Heyd, 1,200 ft. S, 990 ft. W of NE cor. of NW¼ of Sec. 12-9s-7w.
Coring shale 5,750 ft.

New Iberia—Iberia Parish

Harrison & Abercrombie's No. 4 Schwing, Sec. 56-12s-7e.
Top salt 7,194 ft.; T.D. 7,200 ft.; P.B. to 6,640 ft.; milled out at 6,590 ft.; drilled into old hole; P.B. and milling out at 6,280 ft.

Kites Oil Co.'s No. 1 Sealy, Sec. 56-12s-7e.
S.D. 3,300 ft.

Jennings—Acadia Parish

Abshire Bolyard No. 4 Jules Clement, 278 ft. E, 86 ft. N of SW cor. of Sec. 41-9s-2w.
Drlg. sand 1,859 ft.

Yount Lee Oil Co.'s No. 15 Houssiere-Latrisle.
T.D. 7,306 ft.; 7-in. csg. 7,268 ft.; swabbing.

Lafitte—Jefferson Parish

Texas Co. No. 3 Rigolettes, sec. 20-17s-24e.
Location.

Texas Co. No. 2 Lafitte, Sec. 19-17s-24e.
T.D. 7,220 ft.; fishing.

Texas Co.'s No. 2 Rigolet Co-operative Co., 467 ft. S, 1,194 ft. W of NE cor. Sec. 30-19s-24e.
Drlg. shale 7,627 ft.

Lake Hermitage—Plaquemines Parish

Gulf Ref. Co. No. 4 LaFourche Basin Levee Board, 500 ft. N of No. 3, sec. 15-11s-25e.
Bldg. derrick.

Lake Barre—Terrebonne Parish

Texas Co. No. 33 Lake Barre.
Drlg. shale 2,710 ft.

Lake Pelto—Terrebonne Parish

Texas Co.'s No. 14 State, Sec. 8-23s-18e.
T.D. 7,246 ft.; reaming.

Leesville—LaFourche Parish

Gulf Ref. Co. No. 7 Allen Lands, 600 ft. N of S line and 200 ft. W of No. 1, sec. 26-21s-22e.
Drlg. sand 3,903 ft.

Texas Co.'s No. 40 Leesville, Sec. 27-21s-22e.
T.D. 4,143 ft.; P.B. to 4,060 ft. and sidetracked; drlg. shale 3,215 ft.

Texas Co.'s No. 39 Leesville, 125 ft. S 1,481 ft. W of NE cor. SE¼ of Sec. 27-21s-22e.
Abd. at 3,950 ft.

Texas Co.'s No. 25 Leesville.
Derrick.

Texas Co.'s No. 23 Leesville, 975 ft. S, 1,975 ft. W of NW cor. of SW¼ Sec. 28-21-22.
Derrick.

Roanoke—Jefferson Davis Parish

Glassell and Gulf Prod. Co. No. 1 T. A. Anding, 217 ft. N and 375 ft. W of SE cor. of sec. 2-9s-4w.
Derrick.

Glassel et al's No. 1 La. Irrigation Mill Co., 695.5 ft. E and 475 ft. N of SW cor Sec. 1-9s-4w.
Location.

Humble O. & R. Co.'s No. 3 Kratzer, 1,338 ft. NS line, 440 ft. WE line of M. Kratzer 120-ac. tract, Sec. 11-9s-4w.
T.D. 9,887 ft.; P.B. to 6,800 ft.; perforated csg. from 7,833-54 ft.; 2½-in. tubing at 7,592 ft.; washing.

Shell Pet. Corp. No. 2 Carter, 330 ft. E and 187 ft. N of SW cor. of sec. 1-9s-4w.
Drlg. sand and gravel 940 ft.

Humble O. & R. Co. No. 5 Kratzer, 800 ft. EW line, 1,000 ft. SN line of 120-ac. lease, Sec. 11-9s-4w.
T.D. 3,060 ft.; 10¾-in. csg. at 3,040 ft.

Port Barre—St. Landry Parish

Pacheon Oil Co. No. 1 Gauden, Sec. 4-5s-6e.
10¾-in. csg. at 1,081 ft.; W.O.C.

Pan American Prod. Co. No. 1 Cormier, 1,350 ft. W, 457 ft. N of SE cor. of tract.
T.D. 1,048 ft.; 10¾-in. csg. at 1,045 ft.; W.O.C.

St. Martinville—St. Martin Parish

Coastal Oil Co. No. 1 A. O. Ladeaux, in center of tract and 236 ft. E of W line of sec. 5n-11s-6e.
Drlg. shale 4,512 ft.

Coastal Plains Oil Corp. No. 1 A. L. Domengeaux, 330 ft. from W line, 120.5 ft. from N and S lines of 50-ac. Arpent tract, Sec. 57-11s-6e.
Drlg. shale 5,387 ft.

Tide Water Oil Co. No. 2 Smedes, 660 ft. S, 660 ft. W of NW cor. of Smedes tract, Sec. 57-11s-6e.
Drlg. shale 6,326 ft.

Sweet Lake—Calcasieu Parish

Pure Oil Co.'s No. 13 Yount Lee, 800 ft. S, 66 deg. 42 ft. E of No. 12. Sec 13-13.
T.D. 7,701 ft.; set 1,275 ft. of 9⅝-in. csg. and 6,429 ft. of 6⅝-in. csg. at 7,701 ft.; W.O.C.

Sulphur—Calcasieu Parish

Union Sulphur Co.'s No. 815 fee, Sec. 29-9s-10w.
T.D. 4,593 ft.; P.B. and sidetracked at 2,795 ft.; drlg. shale 2,854 ft.

Union Sulphur Co.'s No. 816 fee, Sec. 29-9s-10w.
T.D. 5,236 ft.; P.B. to 3,500 ft.; drlg. shale 4,909 ft.

Union Sulphur Co.'s No. 817 fee, Sec. 29-9s-10w.
T.D. 2,960 ft.; pumping 10 bbls. net oil per day.

Union Sulphur Co. No. 815 fee, 29.6 ft. N, 561 ft. W of C of Sec. 29-9s-10w.
T.D. 3,037 ft.

Starks—Calcasieu Parish

Gulf Prod. Co.'s No. 38 Lutcher Moore, Sec. 19-10s-12w.
Drlg. sand 3,913 ft.

L. R. Welhite No. 1 Industrial Lbr. Co., 675 ft. W and 100 ft. S of NE cor. of NE¼ of SE¼ of sec. 19-9s-12w.
Derrick.

White Castle—Iberville Parish

Shell Pet. Corp.'s No. 2 Shingle, 350 ft. S, 275 ft. E of NW cor. of Shingle lease.
T.D. 5,213 ft.; salt; P.B. and sidetracked; drlg. shale 2,898 ft.
drlg. sand at 3,542 ft.

Miscellaneous Wildcats

TEXAS

Brazoria County

British-American Oil Prod. Co.'s No. 1 W. R. Nash, 1,191 ft. E of W line, 335 ft. S of N line of Thos. Alsberry League.
Made D.S.T. from 4,125-42 ft.; no results; will core to 4,147 ft. and run screen; shut down.

Gulf Prod. Co.'s No. 1 Wilkes & Smith, 5,510 ft. W along N line of 550-ac. tract from NW cor. of 211-ac. tract, thence 990 ft. S at R/A James Hall Sur.
T.D. 6,647 ft.; P.B. to 6,320 ft.; 7-in. csg. at 6,217 ft.; swabbing salt water.

R. R. Osborne's No. 1 John L. Jones, 330 ft. each way out of N cor. of S½ of Lot 7, Blk. 1, J. C. Smith Sur.
S.D. 20 ft.

Texas Co.'s No. 2 Freeport Sulphur Co., Conception Areola Sur.
T.D. 4,611 ft.; conditioning mud.

Burleson County

Carl Dyer et al's No. 1 C. W. Young, 760 ft. EW line, 330 ft. SN line of 140-ac. tract, John Byrd Sur.
Shale 1,150 ft.; no report.

Red Bank Oil Co.'s No. 1 Q. B. Crain, 330 ft. from N and W lines of 140-ac. tract and W. C. Pierce Sur.
Location.

Chambers County

Black Gold Oil Co.'s No. 1 Borrow, 6,433 ft. NW of the SE line, 3,080 ft. SW of NE line. Ruben Borrow Sur.
S.D. 6,023 ft.

Salt Dome Oil Co. No. 2 Lawrence, 466 ft. N of N line of Mrs. Julia H. Casey 532.05-ac. tract and 466 ft. W of most westerly E line of A. B. Lawrence 332.05-ac. tract, Solomon Barrow Sur.
Location.

South Gulf Oil Co.'s No. 1 J. T. White, 1,653 ft. from E line, 466 ft. from S line of 1,476-ac. tract, James McGahey Sur.
Location.

Calhoun County

Continental Oil Co. No. 2-A American Realty Co., 150 ft. NE of No. 2, Pedro Garcia Sur., Lot 1, Blk. "C."
T.D. 6,525 ft.; running 8⅝-in. csg.

Humble O. & R. Co.'s No. 1 Mrs. Eliza Weider, 5,695 ft. S, 55 deg. W from a part of intersection of St. L.B.&W. R.R. Sur. and NW line of Jose Maria Rios Sur., 7,210 ft. S, 25 deg. E at R/A Gardner Smith Sur.
Drlg. shale 4,648 ft.

Colorado County

Coyle & Concord's No. 1 fee, 550 ft. from N line, 1,950 ft. from E line of Sec. 45 L.&G.N. Sur.
T.D. 6,003 ft.; tested 1 thribble oil, 3 thribbles salt water on D.S.T. from 5,900-53 ft.; drlg. shale 6,027 ft.

Galveston County

Sun Oil Co.'s No. 1 J. D. Hughes, 1,660.9 ft. NW line, 1,212 ft. NE line of W. M. C. Baker Sur.
Drlg. shale and lime 6,345 ft.

Grimes County

Dr. Marshall et al's No. 1-B Todd, 800 ft. from E line and 175 ft. from N line of 150-ac. tract in extreme NW cor. of county (25 ft. N of No. 1).
T.D. 2,836 ft.; P.B. to 2,815 ft.; well flowing brackish water with small amount of gas through ¼-in. choke; S.D.

Harris County

A. C. Hill's No. 1-A Swilley 5,436 varas E of W line and 1,960 varas N of S line of Sur.-C. Victor Blanco Sur.
T.D. 2,010 ft.; W.O.C.

A. C. Hill's No. 1-B Swilley 6,141 varas E of W line, 1,960 varas N of S line of Sur., center of 200-ac. lease, 365 varas S of N line and 773 varas W of E line of lease, Victor Blanco Sur.
Drlg. hard sand 6,919 ft.

Texas Gulf Prod. and Bunte O. & G. Co. No. 1 West Moreland Dev. Co., 225 ft. W, 450 ft. S of SW cor. of J. C. McKenzie Sur., J. B. Pier Sur.
Preparing to spud.

S. E. Young, tr.'s No. 2 P. S. Griffith, 5,476 ft. S of N line, 2,030 ft. E of W line of A. R. Bodman Sur.
S.D. 4,485 ft.; waiting on csg.

Hardin County

Frank Beaudoin et al's No. 1 Walton, A. L. Lancaster Sur.
S.D. 1,960 ft.

Republic Prod.-Houston Oil Co. No. 1 A. A. Burrell, 330 ft. NS line, 1,750 ft. WE line of A. A. Burrell Sur. No. 5-A.
Moving in.

Houston County

Zeni Oil Co.'s No. 1 Houston County Timber Co., I.&G.N. Sur.
Shale 7,337 ft. (corrected); fishing.

Jackson County

L. A. Douglas' No. 1 I. N. Mitchel, 750 ft. W, 150 ft. N from NW cor. of A. F. Mitchell 100-ac. tract, Lolita area, S. F. Austin Sur.
S.D. 4,116 ft.

Jefferson County

Glenn McCarthy, Inc., No. 1 C. W. Howth, 2,330 ft.; 466 ft. SN line of survey, T.& N.O. Sur., sec. 10.
Rig up.

Humble O. & R. Co. No. 1 Mrs. Effie Willerton, 1,000 ft. WE line of Sec. 1, and midway between N and S lines of a 25-ac. tract, H.T.&B. Sur., Sec. 1-A38.
Abd. 6,925 ft.

Sun Oil Co.'s No. 1 Herbert & Brannard, 4,590 ft. NW along SW line and 660 ft. NE at R/A to SW line, B. Blackman Sur., Abst. No. 2.
Shale 8,282 ft.; 9⅝-in. csg. 3,210 ft.; milling csg. at 8,282 ft.

Tatum and Pendergrass No. 1 R. W. Owens, 160 ft. E of W line and 235 ft. S of N line of Lot No. 3, Blk. 9, Range 9, Port Arthur Land Co. subdv., Joseph Grigsley Sur.
Drlg. shale and shell 1,340 ft.

Matagorda County

Continental Oil Co.'s No. 1 Felfe, J. S Criswell Sur., 3,000 ft. E of W line, 1,-900 ft. N of S line of survey.
T.D. 7,620 ft.; washing over and cutting 6-in. drill pipe.

John Deering No. 1 R. A. Estelle, 2,000 ft. SE, 200 ft. NE from W cor. of 480-ac. tract in Tone and Jameson Sur.
Shale 3,465 ft.; no report.

Hammon Exploration Co.'s No. 1 Cleveland, 330 ft. NS line, and WE line of 68-ac. tract, E. Hall Sur.
T.D. 8,391 ft.; 7-in. csg. at 8,350 ft.; tested salt water.

Heimerich & Payne's No. 1 Hawkins, 350 ft. S, 70 deg. W of Cockburn Oil Co.'s No. 6 Hawkins.
T.D. 7,314 ft.; 5-in. csg. 7,326 ft.; preparing to drill plugs.

Sterling O. & R. Co.'s No. 1 Baer Estate, 5,274 ft. SW of S cor. of Van Dorn and Bates Sur., 400 ft. NW at right angles in Samuel Hart Sur.
T. D. 1,320 ft.; 10¾-in. csg. set at 1,320 ft.; W.O.C.

Sun Oil Co.'s No. 1 Craig, 1,546.9 ft. SW from N cor. along NW line of lease and survey, thence 157.3 ft. SE at right angles in Thomas Williams Sur.
Drlg. sand and shale 2,989 ft.

Montgomery County

W. C. Battalle's No. 1 Caswell, 2,490 ft. from E line, 150 ft. from S line of survey, David Davis Sur.
S.D. 250 ft.

Jack Frazier No. 1 Maxey, 330 ft. S, 330 ft. E of NW cor. of 500-ac. tract of James Brown Sur.
Bldg. road.

Seabreeze & Smith No. 1 Delta Land & Timber Co., 330 ft. from most westerly SW cor. of Thomas Shepperd Sur.
Moving in rig.

W. M. S. Thomson's No. 1 Scott, 1,191 ft. SN line, 482 ft. WE line, 1,633 ft. EW line of the F. A. B. Wheeler Sur.
T.D. 3,674 ft.; P.B. to 2,486 ft.; perforated csg. from 2,460-80 ft.; bailed to bottom; recovered small amount of colored fluid.

Orange County

Blue Line Oil Co.'s No. 1 J. E. Post Richard, 900 ft. W of E line and 150 ft. S of N line of most easterly NE cor. of 138-ac. tract, Ballou Sur.
Drlg. shale and lime 2,540 ft.

Coker Oil Co.'s No. 1 S. T. Mansfield, 500 ft. S, 500 ft. W from NE cor. of 80-ac. tract, J. W. Hall Sur.
S.D. 1,230 ft.

Smith & Ellis' No. 1 Pell.
T.D. 2,095 ft.; changing rigs.

Polk County

O. C. Davis et al No. 1 Knox, 1,450 ft. W and 1,920 ft. S of the NE cor. of survey, F. Chairs Sur.
Rig up.

Refugio County

Cecil Hagen et al's No. 1 Edith Clarkson, 1,736 ft. from N line, 3,830 ft. from E line of J. Coughlin Sur.
Location.

San Jacinto County

Cockburn Oil Co. No. 1 Cruse, 330 ft. from S and E lines of 163-ac. tract, H.&T.C. Sur.
Location.

Cockburn Oil Co. No. 1 Kilburn Moore, 330 ft. from S and E lines of 854.33-ac. tract in J. P. De Rumayor Sur.
Building road.

Cockburn & Hargrove No. 1 Dixon & Falvey, 2,579 ft. S, 150 ft. E of NE cor. of Solomon Cole Sur., Christian Smith Sur.
Drlg. 60 ft.

John Deering et al's No. 1 Randolph, 330 ft. S of center of N line of Tract 7 of the Randolph Sud., V. Flores Sur.
Bldg. derrick.

Goldston & Decker No. 1 Randolph, 330 ft. S of center of Lot No. 7, 3,650 ft. NW along line of A. Neal Sur. from S cor. thence 1,600 ft. W at right angles, Vital Flores Sur.
Moving in.

J. E. Hooper et al's No. 1 R. B. Love, 475 S of N line, 2,000 ft. W of E line, 177-ac. tract, Drury McGee Sur.
Drlg. shale, shells and lime at 3,851 ft.

Victoria County

Heep Oil Corp.'s No. 1 J. J. Welder, 300 ft. SW line, 750 ft. from SE line of Nursery area, Phillip Graves Sur.
Drlg. water well.

Shell Pet. Corp.'s No. 2 McFadden, 11,350 ft. from NE cor. along N line, 2,310 ft. S of N line at R/A.
T.D. 5,910 ft.; reaming.

Walker County

Bradley et al's No. 1 Trinity Lumber Co., N 45 deg., E 1,305 ft., N 45 deg., W 400 ft. from S cor. of J. C. Harrison 320-ac. Sur.
Spudded and S.D.

Wharton County

Pure Oil Co.'s No. 1 Paige, 1,397 ft. NE and 467 ft. SE from W cor. of 159.27-ac. lease, James Pirie Sur.
Drlg. shale 7,460 ft.

Sterling Oil & Ref. Co.'s No. 1 Frank Janik Sr., 1,859 ft. from N line, 467 ft. W from SE cor. of Janik tract, Johathan Scott Sur.
T.D. 8,667 ft.; 5-in. csg. at 7,831 ft.; P.B. to 7,875 ft.; perforated liner from 7,832-47 ft.

Texas Co.'s No. 1-C Pierce Est., 12,225 ft. W along S line of the W. M. Pettus Sur., 3,400 ft. N in the John Caldwell League.
T.D. 7,244 ft.; P.B. 5,200 ft.; sidetracked at 5,805 ft.; tested 300 ft. oil and 600 ft.; drilling mud; will core ahead.

SOUTH LOUISIANA

Acadia Parish

Superior Oil Co.'s No. 1 Adam Smith, 324 ft. S, 35 deg. 35 min. E from NE cor. of 38.93-ac. tract, Sec. 47-7s-1e.
T.D. 8,387 ft. in sand and shale; to perforate liner for drill stem test.

Beauregard Parish

Richardson & Martin's No. 1 Southwest Lbr. Co.
Location.

Calcasieu Parish

Fred Oil Co.'s No. 2 Faizt, 262 ft. E and 8 ft. S of NW cor. SE¼ Sec. 26-8s-10w.
S.D. 4,025 ft.

Lahay & Lambert et al's No. 1 Landry, 1,269 ft. southwesterly from NW cor., 5,600 ft. southwesterly from NE cor. of NW¼ of SE¼ of Sec. 33-11s-10w.
Spudded 28 ft. and S.D.

Wheeler Oil Corp.'s No. 1 School Lot, 1,761 ft. E, 1,325 ft. N of SW cor. Sec. 16-9s-7w.
S.D. 7,210 ft.

Cameron Parish

Magnolia Pet. Co.'s No. 1 J. B. Broussard, 350 ft. E and S, out of NW cor. of the SW¼ of SE¼ of Sec. 13-12s-9w.
5-in. csg. at 9,499 ft.; perforated csg. 7,968 ft.; showed gas distillate on drill stem test with 3,000 lbs. pressure; preparing to complete; making up tubing and screen.

Pan American Prod. Co. No. 1 Lutcher-

Moore, 17,000 ft. W and 4,203 ft. N of SE cor. Sec. 33-14s-11w.
Drlg. shale 7,084 ft.

Steinberger Pet. Co.'s No. 1 Drew, 330 ft. out of NW cor. NE¼ of Sec. 36-10s-11w. Location.

Concordia Parish

Zeni Oil Co. No. 1 E. J. Young, 1,200 ft. W of E line, 100 ft. N of S line of SE¼ of SE¼ of sec. 28-6n-8e.
S.D. 510 ft.

Evangeline Parish

J. E. Ladue's No. 4 Vidrien, Sec. 34-3-3.
S.D. 1,635 ft.

Sparks-Mitchell and Jacobson's No. 1 Vidrine, 1,114 ft. S, 1,060 ft. W of NE cor. Sec. 47-4s-2e.
S.D. 1,635 ft.

East Feliciana Parish

Thompson Creek Oil Co.'s No. 1 Fannie Noland, 2,600 ft. E and 1,580 ft. N of SW cor. Sec. 70.
S.D. 1,589 ft.

Iberia Parish

Jefferson Lake Oil Co.'s No. 1 State, Twp. 12s-5e.
T.D. 8,655 ft.; sidetracked at 8,131 ft.; drlg. shale 8,435 ft.

Meade Oil Co.'s No. 1 Hamilton, near town of Loze, in the NW cor. of parish, Sec. 33-12-5.
S.D. 200 ft.

Texas Co.'s No. 1 State Fausse Point.
D.S. stuck at 6,400 ft.; milling on csg.

Jefferson Davis Parish

J. K. Lewis' No. 1 Lockmoore, 150 ft. N and W of SE cor. NW¼ of Sec. 32-7-6.
T.D. 6,053 ft.; P.B. to 5,000 ft.; sidetracking at 5,500 ft.

Shell Pet. Corp.'s No. 1 Lacassan, 990 ft. N, 1,980 ft. E of SW cor. of Sec. 20-11s. 5w.
T.D. 8,220 ft.; reaming at 6,963 ft.

LaFourche Parish

Coastal Oil Co.'s No. 2 Constantine, 1,476 ft. N, 809 ft. E of SW cor. Sec. 26-21-22e.
Location.

St. Bernard Parish

Emerald Pet. Corp.'s "Shell Beach Properties" No. 1, on S edge of Bayou Louis, Sec. 31-13s-15e.
T.D. 7,385 ft.; hole caved in while S.D. at 5,480 ft.; cemented 7-in. csg. at 5,480 ft.

Southern Sulphur Co. No. 1 Lake Borgne, sec. 13s-16e.
S.D. 1,723 ft.

St. Mary Parish

Herton Oil Co.'s No. 1 Roame, 1,386 ft. N, 688 ft. E, SW cor. of Lot 13, Sec. 35-13s-9e.
T.D. 7,512 ft.; 7-in. csg. 7,460 ft.; swbd. salt water; P.B. 7,498 ft.; I.P. 25 bbls. per hr., ¼-in. choke. T.P. 1,400 lbs.; C.P. 1,400 lbs.

St. Martin Parish

Texas Co.'s No. 1 State Lake, 5,180 ft. E. 350 ft. N of SW cor. of Sec. 10-10s-9e.
T.D. 6,982 ft. in shale.

S. C. Yingling et al No. 1 State, 2,957 ft. N and 1,118 ft. W of SE cor. of SE cor. of sec. 13-9s-8w.
Location.

S. C. Yingling No. 2 State, 3,066 ft. N and 2,003 ft. W of SE cor. of sec. 13-9s-8w.
Location.

Plaquemines Parish

Southern Sulphur Co.'s No. 1 Manhattan Fruit Co.
S.D. 3,189 ft.

St. Tammy Parish

Danciger O. & R. Co.'s No. 1 Holdsworth, C NW¼ SE¼ Sec. 26-8s-14e.
S.D. in lime at 5,270 ft.

Vermillion Parish

Delcambre & Shelton's No. 1 Adam Delcambre, south degrees E, 825 ft. from most northerly cor. of irregular Sec. 65-17-5.
S.D. 2,704 ft.

Vernon Parish

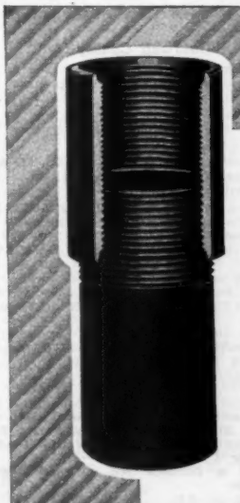
Llano Cooperative Oil Co. No. 3 Llano Del Rio, 1,185 ft. S and 1,000 ft. W of NE cor. of sec. 7-1n-9w.
Drlg. shale 2,010 ft.

Terrebonne Parish

Shell Pet. Corp.'s No. 1 Realty Operators, 2,000 ft. due S of E cor. of triangular Sec. 76, Sur. 103, 17s-17e.
T.D. 6,804 ft.; fishing.

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Shell Oil Co., No. 11 Capitan, Santa Barbara Co.	5- 4-30	2,715	completing
General Petroleum, No. 15 Capitan, Santa Barbara Co.	32- 5-30	323	suspended
General Petroleum, No. 16 Capitan, Santa Barbara Co.	5- 4-30	....	rig; suspended
Honolulu Oil Corp., No. 9 Elwood, Santa Barbara Co.	tideland	5,065	cleaning out
Barnsdall-Rio Grande, No. 12 Elwood, Santa Barbara	15- 4-29	7,044	Eocene O.S.
Barnsdall-Rio Grande, No. 6 Elwood, Santa Barbara.	15- 4-29	3,610	cmtd. 3,610
Barnsdall-Rio Grande, No. 2 Elwood, Santa Barbara.	15- 4-29	6,492	suspended
Bankline Oil Co., No. 10 Elwood, Santa Barbara Co.	tideland	3,949	hd. sd. drlg.
Pacific Western, No. 16 Elwood, Santa Barbara Co. ..	tideland	3,699	looks wet
Signal Oil Co., No. 6 Elwood, Santa Barbara Co.	tideland	2,150	hd, sh. drlg.
Spalding, Caroline, No. 12 Elwood, Santa Barbara Co.	tideland	....	rigging up
Field, O. C., No. 1 Santa Maria, Santa Barbara Co. ...	28-10-33	3,477	suspended
Fairview Oil Co., No. 1 Purisima, Santa Barbara Co.	18- 7-34	4,939	suspended
Anacapa Oil Co., No. 3 Mesa, Santa Barbara Co.	28- 4-27	2,027	cmtd. 2,015
Mar Monte Oil Co., No. 1 Summerland, Santa Barbara.	16- 4-26	1,604	suspended
Santa Barbara Oil, No. 1 Carpinteria, Santa Barbara	29- 4-25	1,574	sd. sh. drlg.
Dietzman, Julius, No. 1 Carpinteria, Santa Barbara Co	8- 4-25	....	rigged up
Las Posas Pet., No. 1 Las Posas, Ventura Co.	22- 3-20	8,116	suspended
Union Oil Co., No. 1 Bardsdale, Ventura Co.	12- 3-20	5,755	sd. sh. drlg.
Monticello Oil Co., No. 1 Bardsdale, Ventura Co.	12- 3-20	4,011	suspended
Duke Oil Co., No. 1 Bardsdale, Ventura Co.	7- 3-19	716	cmtd. 612
Supreme Oil Co., No. 1 Sespe, Ventura Co.	1- 4-20	880	suspended
Bankline Oil Co., No. 1 Sespe, Ventura Co.	36- 5-20	1,300	sd. sh. drlg.
Topa Oil Co., No. 1 Sespe, Ventura Co.	33- 5-19	874	br. sh. drlg.
Nelson & Co., No. 1 Sespe, Ventura Co.	28- 4-19	1,042	rd. sd. drlg.
Laying & Jacobs, No. 1 Shiells Canyon, Ventura Co.	32- 4-19	1,101	repair mach.
El Rancho Oil Co., No. 1 South Mountain, Ventura Co.	9- 3-19	1,110	suspended
Bankline Oil Co., No. 2 South Mountain, Ventura Co.	3- 3-19	1,265	sd. sh. drlg.
Hull, James, No. 1 Santa Susana, Ventura Co.	2- 2-18	1,487	hd. sh. drlg.
Paloma Oil Co., No. 1 Santa Susana, Ventura Co.	12- 2-18	2,851	suspended
Bolsa Chica Oil Co., No. 1 Temescal, Ventura Co.	4- 4-18	3,035	pump. 251 b.d.
Bolsa Chica Oil Co., No. 3 Temescal, Ventura Co.	4- 4-18	....	bldg. rig
Dawson Oil Co., No. 1 Simi, Ventura Co.	5- 2-17	1,911	cleaning out
Ventura Expl. Co., No. 1 Saticoy, Ventura Co.	30- 3-22	7,073	P.B. 6,435
Prop. Service Corp., No. 1 Lloyd, Ventura Co.	24- 3-23	8,889	flow. 25 b.d.
General Pet., No. 1 Oxnard, Ventura Co.	26- 2-23	7,625	redrlg. 6,785
General Pet., No. 3 Rincon, Ventura Co.	tideland	3,816	reaming
Honolulu Oil Corp., No. 2 Rincon, Ventura Co.	tideland	3,300	sd. sh. drlg.
Continental Oil Co., No. 2 Ojai, Ventura Co.	13- 4-23	964	rd. sh. drlg.
Continental Oil Co., No. 5 San Miguelito, Ventura Co.	15- 3-24	4,842	hd. sh. drlg.
Standard Oil Co., No. 1 Lost Hills, Kern Co.	2-26-20	5,824	recmt. 9 times
Cumberland Oil Co., No. 1 Devil's Den, Kern Co.	17-26-18	4,321	sd. sh. drlg.
Belmac Drlg. Co., No. 1 McKittrick, Kern Co.	22-29-21	4,650	hd. sd. drlg.
Belmac Drlg. Co., No. 2 McKittrick, Kern Co.	21-29-21	498	suspended
General Pet. Co., No. 1 South Belridge, Kern Co. ...	30-28-21	11,377	suspended
Standard Oil Co., No. 3 North Belridge, Kern Co. ...	36-27-20	3,150	hd. sd. drlg.
Standard Oil Co., No. 4 North Belridge, Kern Co. ...	36-27-20	....	rig; suspended
Belridge Oil Co., No. 48-35 North Belridge, Kern Co.	35-27-20	4,658	suspended
Belridge Oil Co., No. 18-35 North Belridge, Kern Co.	35-27-20	2,682	sd. sh. drlg.
Belridge Oil Co., No. 6-1 North Belridge, Kern Co...	1-28-28	774	sd. sh. drlg.
Continental Oil Co., No. 6 North Belridge, Kern Co. ...	36-27-20	8,235	completing
Union Oil Co., No. 20 North Belridge, Kern Co.	36-27-20	8,697	sd. sh. drlg.
Union Oil Co., No. 21 North Belridge, Kern Co.	36-27-20	....	rigging up
Beck, Albert, No. 1 North Belridge, Kern Co.	35-28-20	786	gr. sd. drlg.
Ohio Oil Co., No. 1 Maricopa Flats, Kern Co.	11-11-22	7,521	sd. sh. drlg.
Woods & Bailey, No. 1 McFarland, Kern Co.	16-26-26	2,490	suspended
Standard Oil Co., No. 1 Delano, Kern Co.	1-25-23	2,455	gas; shut in
Standard Oil Co., No. 2 Delano, Kern Co.	1-25-23	3,256	gas; shut in
Standard Oil Co., No. 4 Delano, Kern Co.	34-24-23	2,460	gas; shut in
Standard Oil Co., No. 5 Delano, Tulare Co.	33-24-23	2,466	gas; shut in
Standard Oil Co., No. 6 Delano, Kern Co.	1-25-23	3,376	bl. sh. drlg.
Trico Oil & Gas Co., No. 1 Delano, Kern Co.	3-25-23	2,525	gas; shut in
Trico Oil & Gas Co., No. 5 Delano, Kern Co.	3-25-23	2,467	gas; shut in
Richardson & Heaston, No. 1 Kern Front, Kern Co.	5-28-28	2,567	cleaning out
McDonald & Dearin, No. 1 Kern Front, Kern Co. ...	10-28-27	2,152	sd. sh. drlg.
National Oil Co., No. 3 Kern Front, Kern Co.	11-28-27	1,720	rig to pump
National Oil Co., No. 4 Kern Front, Kern Co.	11-28-27	965	sd. sh. drlg.
C. C. M. Oil Co., No. 10 Kern Front, Kern Co.	23-28-27	2,050	rig to pump
C. C. M. Oil Co., No. 11 Kern Front, Kern Co.	23-28-27	....	rig; suspended
Kreighs, C. H., No. 1 Kern Front, Kern Co.	4-28-27	2,732	bailing
Standard Oil Co., No. 7 Kern Front, Kern Co.	5-28-27	2,785	rig to pump
Standard Oil Co., No. 8 Kern Front, Kern Co.	24-28-27	....	rig; suspended
The Texas Co., No. 2 Kern Front, Kern Co.	23-28-27	2,040	rig to pump
The Texas Co., No. 3 Kern Front, Kern Co.	23-28-27	....	bldg. rig
Grace-Kern Oil Co., No. 1 Premier, Kern Co.	26-27-27	1,800	gr. sd. drlg.
Burcamba Oil Co., No. 1 Premier, Kern Co.	22-27-27	....	rig; suspended
Ohio Oil Co., No. 9 Premier Area, Kern Co.	32-27-27	2,795	cmtd. 2,696
O. & F. Oil Co., No. 1 Premier Area, Kern Co.	32-27-27	2,752	hd. sd. drlg.
O. & F. Oil Co., No. 2 Premier Area, Kern Co.	32-27-27	....	location
Elliott Oil Co., No. 1 Fruitvale, Kern Co.	14-29-27	972	sd. sh. drlg.
Aladdin Oil Co., No. 1 Mountain View, Kern Co.	19-30-29	....	rig; suspended
Barnsdall Oil Co., No. 5 Mountain View, Kern Co. ...	32-30-29	5,251	sd. sh. drlg.
Barnsdall Oil Co., No. 6 Mountain View, Kern Co. ...	30-30-29	6,199	sd. sh. drlg.
Gilmore-Snyder, No. 4 Mountain View, Kern Co. ...	24-30-28	4,060	sd. sh. drlg.
Union Oil Co., No. 10 Mountain View, Kern Co.	33-30-28	5,622	testing
Hancock Oil Co., No. 9 Mountain View, Kern Co. ...	14-30-28	5,242	sd. sh. drlg.
Hogan Pet. Co., No. 8 Mountain View, Kern Co.	32-30-29	5,727	flow. 1,200 b.d.
Buffalo Oil Co., No. 1 Mountain View, Kern Co.	19-30-29	....	rig; suspended
Sheldon Oil Corp., No. 1 Mountain View, Kern Co. ...	19-30-29	2,351	sd. sh. drlg.
Vesta Pet. Co., No. 2 Mountain View, Kern Co.	19-30-29	3,531	sd. sh. drlg.
Wood-Callahan Oil Co., No. 2 Mountain View, Kern Co.	25-30-28	....	rigging up
Wood-Callahan Oil Co., No. 3 Mountain View, Kern Co.	30-30-29	5,714	will dpn.
O'Kane & Brain, No. 2 Mountain View, Kern Co. ...	30-30-29	5,131	sd. sh. drlg.
Mohawk Oil Co., No. 15 Mountain View, Kern Co. ...	30-30-29	5,960	cleaning out
Mohawk Oil Co., No. 16 Mountain View, Kern Co. ...	30-30-29	4,952	sd. sh. drlg.
Mohawk Oil Co., No. 17 Mountain View, Kern Co. ...	30-30-29	3,142	sd. sh. drlg.
Ohio Oil Co., No. 1 Mountain View, Kern Co.	33-30-29	5,945	cmtd. 5,693
Ohio Oil Co., No. 2 Mountain View, Kern Co.	33-30-29	3,850	sd. sh. drlg.
Shell Oil Co., No. 5 Mountain View, Kern Co.	32-30-29	6,062	P.B. 5,764
Shell Oil Co., No. 6 Mountain View, Kern Co.	32-30-29	2,471	sd. sh. drlg.
Shell Oil Co., No. 7 Mountain View, Kern Co.	32-30-29	....	bldg. rig
Standard Oil Co., No. 16 Mountain View, Kern Co. ...	13-30-28	5,174	sd. sh. drlg.
Standard Oil Co., No. 19 Mountain View, Kern Co. ...	24-30-28	5,360	bailing
Standard Oil Co., No. 20 Mountain View, Kern Co. ...	24-30-28	5,545	completing
Standard Oil Co., No. 21 Mountain View, Kern Co. ...	24-30-28	3,756	sd. sh. drlg.
Standard Oil Co., No. 22 Mountain View, Kern Co. ...	24-30-28	3,530	sd. sh. drlg.
Standard Oil Co., No. 23 Mountain View, Kern Co. ...	13-30-28	....	bldg. rig
Mountain View Oil Co., No. 1 Mountain View, Kern Co.	25-30-28	5,650	suspended
Jergins Trust, No. 5 Mountain View, Kern Co.	24-30-28	5,800	redrlg. 5,575
Jergins Trust, No. 6 Mountain View, Kern Co.	30-30-29	5,915	cmtd. 5,830
Speik Oil Co., No. 1 Bakersfield, Kern Co.	25-30-27	4,043	sd. sh. drlg.
Shell Oil Co., No. 2 Coffee Canyon, Kern Co.	7-28-29	1,721	P.B. 1,648
H. & L. Oil Co., No. 1 Round Mountain, Kern Co. ...	2-28-28	975	sd. sh. drlg.
Mountain Pet. Co., No. 1 Round Mountain, Kern Co.	24-28-28	....	rigged up
Jergins Trust, No. 14 Edison, Kern Co.	13-30-29	1,231	bailing
Jergins Trust, No. 15 Edison, Kern Co.	13-30-29	1,500	P.B. 1,366
Jergins Trust, No. 16 Edison, Kern Co.	13-30-29	....	rigging up
Jergins Trust, No. 17 Edison, Kern Co.	14-30-29	....	rig; suspended
Jergins Trust, No. 18 Edison, Kern Co.	24-30-29	....	rig; suspended
North American Oil Co., No. 3 Edison, Kern Co.	14-30-29	1,616	cmtd. 1,350
Shell Oil Co., No. 8 Edison, Kern Co.	16-30-29	4,510	pump. test
Shell Oil Co., No. 11 Edison, Kern Co.	15-30-29	....	location
Rogers Dev. Co., No. 1 Edison, Kern Co.	29-30-30	653	sd. sh. drlg.
Rogers & Osborne, No. 1 Edison, Kern Co.	19-30-30	1,447	P.B. 1,077
General Pet., No. 12 Edison, Kern Co.	24-30-29	1,484	sd. sh. drlg.
General Pet., No. 13 Edison, Kern Co.	24-30-29	....	rigging up
Union Oil Co., No. 3 Edison, Kern Co.	14-30-29	....	rigging up
Seeple, J. O., No. 1 Elk Hills, Kern Co.	5-30-24	5,265	suspended
Hutcheson & Osborne, No. 2 Arvin, Kern Co.	32-30-30	1,280	suspended
Caloren Oil Co., No. 1 Midway, Kern Co.	27-32-25	....	rigging up
Arlington Prop., No. 1 Buttonwillow, Kern Co.	6-28-23	3,235	gas; shut in
Milham Exploration Co., No. 5 Buttonwillow, Kern Co.	5-28-23	3,127	gas; shut in
The Texas Co., No. 1 Buttonwillow, Kern Co.	6-28-23	2,435	gas; shut in
The Texas Co., No. 2 Buttonwillow, Kern Co.	8-28-23	2,475	gas; shut in
Superior Oil Co., No. 1 Semi-Tropic, Kern Co.	23-27-23	2,418	gas; shut in
Superior Oil Co., No. 2 Semi-Tropic, Kern Co.	34-27-24	8,852	sd. sh. drlg.
Fullerton Oil Co., No. 1 Semi-Tropic, Kern Co.	1-27-22	2,391	gas; shut in
Fullerton Oil Co., No. 2 Semi-Tropic, Kern Co.	14-27-23	2,463	gas; shut in
Fullerton Oil Co., No. 3 Semi-Tropic, Kern Co.	9-27-23	3,150	gas; shut in
Fullerton Oil Co., No. 4 Semi-Tropic, Kern Co.	26-27-23	3,395	gas; shut in
Fullerton Oil Co., No. 5 Semi-Tropic, Kern Co.	8-27-23	2,347	gas; shut in
Fullerton Oil Co., No. 6 Semi-Tropic, Kern Co.	25-27-23	2,441	gas; shut in
Fullerton Oil Co., No. 7 Semi-Tropic, Kern Co.	25-27-23	2,437	gas; shut in
Fullerton Oil Co., No. 8 Semi-Tropic, Kern Co.	25-27-23	2,439	gas; shut in
Fullerton Oil Co., No. 9 Semi-Tropic, Kern Co.	26-27-23	2,431	gas; shut in
Fullerton Oil Co., No. 10 Semi-Tropic, Kern Co.	15-27-23	2,414	gas; shut in
Standard Oil Co., No. 1 Semi-Tropic, Kern Co.	8-27-23	3,200	gas; shut in
Standard Oil Co., No. 3 Semi-Tropic, Kern Co.	7-27-22	2,355	gas; shut in
Standard Oil Co., No. 6 Semi-Tropic, Kern Co.	8-27-22	2,361	gas; shut in
Standard Oil Co., No. 8 Semi-Tropic, Kern Co.	12-27-22	2,426	gas; shut in
Standard Oil Co., No. 13 Semi-Tropic, Kern Co.	6-27-23	2,408	gas; shut in
Standard Oil Co., No. 15 Semi-Tropic, Kern Co.	16-27-23	3,215	gas; shut in
Standard Oil Co., No. 17 Semi-Tropic, Kern Co.	16-27-23	3,051	gas; shut in
Milham Expl. Co., No. 1 Semi-Tropic, Kern Co.	15-27-23	3,122	gas; shut in
Milham Expl. Co., No. 2 Semi-Tropic, Kern Co.	15-27-23	2,429	gas; shut in
Milham Expl. Co., No. 3 Semi-Tropic, Kern Co.	15-27-23	2,385	gas; shut in
Milham Expl. Co., No. 4 Semi-Tropic, Kern Co.	24-27-23	2,486	gas; shut in
Comanche Oil Co., No. 1 Comanche, Kern Co.	15-32-29	5,394	suspended
Tejon Ridge Oil Co., No. 1 Comanche, Kern Co.	23-32-29	2,187	will P.B.
Ohio Oil Co., No. 1 Buena Vista, Kern Co.	31-31-26	5,302	gas; shut in
Ohio Oil Co., No. 4 Buena Vista, Kern Co.	32-31-26	3,575	sd. sh. drlg.
Silver Gate Oil & Gas Co., No. 1 Tejon, Kern Co. ...	7-10-19	3,005	cmtd. 1,870
Reserve Oil & Gas Co., No. 4 Tejon, Kern Co.	2-10-19	2,643	form. test
Milham Expl. Co., No. 1 Huron, Fresno Co.	14-20-18	....	bldg. rig
Pacific Expl. Co., No. 1 Kreyenhagen, Fresno Co. ...	17-21-17	1,600	suspended



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Our patented process of recessing couplings inside of each end assures perfect alignment. Result: No trouble in securing a tight joint. X-L quality is always according to A.P.I. Standard Plug Gage Limits.

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Wheeling Machine Products Company
WHEELING, W. VA.

Union Oil Co., No. 1 Lillis-Welsh, Fresno Co.	24-21-16	10,944	redrlg. 10,872	
K. N. D. A., No. 54 Kettleman North, Fresno Co.	24-21-16	8,658	gr. sd. drlg.	
Standard Oil Co., No. 2 Kettleman Middle, Kings Co.	29-22-19	7,885	P.B. 7,800	
Pet. Sec., No. 1 Kettleman Middle, Kings Co.	30-22-19	7,565	br. sh. drlg.	
Royalty Service Corp., No. 1 Pyramid Hills, Kings Co.	16-24-18	701	sd. sh. drlg.	
Burch, I. L., No. 1 Cuyama, San Luis Obispo Co.	3-10-26	....	location	
Farrel Pet., Well No. 1, San Luis Obispo Co.	19-31-12	1,924	sd. sh. drlg.	
Birch-Royer Oil Co., No. 1 Pismo, San Luis Obispo Co.	33-31-13	1,546	sd. sh. drlg.	
United Oil Co., Well No. 1, San Luis Obispo Co.	2-32-21	150	suspended	
Willett Oil Co., No. 1 Cholame, San Luis Obispo Co.	10-25-15	3,687	suspended	
Kettleman View Oil Co., Well No. 1, Kings Co.	29-22-19	760	sd. sh. drlg.	
Milham Expl. Co., No. 2 Tulare Lake, Kings Co.	13-20-18	....	location	
Commonwealth Consd. Gas, No. 1 Tulare Lake, Kings	21-22-20	2,490	gas; shut in	
Commonwealth Consd. Gas, No. 2 Tulare Lake, Kings	21-22-20	2,150	cmtd. 1,850	
Amerada Pet., No. 1 F.L.D., San Joaquin Co.	15- 2-5	9,690	P.B. 5,610	
Amerada Pet., No. 2 F.L.D., San Joaquin Co.	15- 2-5	4,063	producing gas	
Amerada Pet., No. 3 F.L.D., San Joaquin Co.	22- 2-5	4,060	producing gas	
Amerada Pet., No. 5 F.L.D., San Joaquin Co.	15- 2-5	920	sd. sh. drlg.	
Pure Oil Co., No. 1 Chowchilla, Madera Co.	7-10-14	8,402	gas; shut in	
Pure Oil Co., No. 2 Chowchilla, Madera Co.	8-10-14	5,550	sd. sh. drlg.	
Pure Oil Co., No. 3 Chowchilla, Madera Co.	6-10-14	2,797	sd. sh. drlg.	
Northern Counties Pet., No. 1 Tehama, Tehama Co.	25-24-3	5,374	sd. sh. drlg.	
Shell Oil Co., No. 1 Branch, Monterey Co.	34-24-10	6,898	sd. sh. drlg.	
Clark, George, No. 1 Ducor, Tulare Co.	31-22-28	1,320	suspended	
Kabella Oil Co., No. 2 Terra Bella, Tulare Co.	12-22-27	865	hd. sd. drlg.	
Buttes Oilfields, Well No. 3, Sutter Co.	11-15-1	5,340	suspended	
Murrell, T. R., No. 1 Los Banos, Merced Co.	8-10-9	265	sd. sh. drlg.	

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Larco Oil Co., No. 1 El Segundo, Los Angeles Co.	12- 3-15	7,600	suspended
Sovereign Oil Co., No. 1 El Segundo, Los Angeles Co.	22- 3-14	8,766	P.B. 8,300
Pioneer Holding Co., No. 1 Moneta, Los Angeles Co.	33- 2-14	4,320	suspended
McDowell, O. B., No. 1 Torrance, Los Angeles Co.	35- 3-14	3,086	sd. sh. drlg.
Imperial Pacific Oil Co., No. 1 Redondo, Los Angeles	6- 4-14	....	rigging up
Clark, T. R., No. 1 Redondo, Los Angeles Co.	6- 4-14	3,552	prod. test
West American Oil Co., No. 1 Dominguez, Los Angeles	3- 4-13	1,009	cmtd. 1,009
McAdams Expl. Co., No. 1 Palos Verdes, Los Angeles	31- 4-13	1,931	sd. sh. drlg.
Shell Oil Co., No. 1 Clearwater, Los Angeles Co.	13- 4-13	4,455	redrlg. 4,397
Clayton, G. L., No. 1 Long Beach, Los Angeles Co.	31- 3-12	6,765	suspended
Standard Oil Co., No. 12 Inglewood Deep, Los Angeles	8- 2-14	3,689	flow. 975 b.d.
Standard Oil Co., No. 13 Inglewood Deep, Los Angeles	8- 2-14	3,310	bailing
Standard Oil Co., No. 14 Inglewood Deep, Los Angeles	8- 2-14	2,800	cmtd. 2,750
Blackline Oil Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	6,608	wet; susp.
Crest Oil Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	6,703	P.B. 6,665
Anglo American Oil Co., No. 1 Del Rey, Los Angeles	27- 2-15	6,939	cmtd.
Union Oil Co., No. 18 Del Rey, Los Angeles Co.	27- 2-15	6,211	sd. sh. drlg.
Union Oil Co., No. 19 Del Rey, Los Angeles Co.	27- 2-15	1,843	sd. sh. drlg.
Union Oil Co., No. 20 Del Rey, Los Angeles Co.	27- 2-15	....	rigging up
Treasure Oil Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	6,157	hd. sd. drlg.
Yant Pet. Corp., No. 1 Newhall, Los Angeles Co.	1- 3-16	1,140	hd. sd. drlg.
Eyer Pet. Co., No. 1 Compton, Los Angeles Co.	20- 4-13	2,065	sd. sh. drlg.
Monarch Oil Corp., No. 1 Topanga, Los Angeles Co.	5- 1-16	652	cleaning out
Standard Oil Co., No. 79 Montebello, Los Angeles Co.	2- 2-12	2,630	sd. sh. drlg.
Standard Oil Co., No. 80 Montebello, Los Angeles Co.	2- 2-12	....	bldg. rig
Standard Oil Co., No. 81 Montebello, Los Angeles Co.	2- 2-12	841	sd. sh. drlg.
Standard Oil Co., No. 82 Montebello, Los Angeles Co.	2- 2-12	2,590	sd. sh. drlg.
Butler, C. R., No. 1 Montebello, Los Angeles Co.	14- 2-10	....	rigging up
Woodward Oil Co., No. 2 Montebello, Los Angeles Co.	4- 2-11	3,307	O.S. reaming
The Texas Co., No. 13 Montebello, Los Angeles Co.	5- 2-11	5,828	fishing
Universal Consd., No. 3 Montebello, Los Angeles Co.	5- 2-11	5,607	P.B. 5,590
Universal Consd., No. 5 Montebello, Los Angeles Co.	5- 2-11	2,972	sd. sh. drlg.
Wilshire Oil Co., No. 1 Montebello, Los Angeles Co.	5- 2-11	6,372	suspended
Wilshire Oil Co., No. 2 Montebello, Los Angeles Co.	4- 2-11	3,981	P.B. 2,271
Wilshire Oil Co., No. 3 Montebello, Los Angeles Co.	11- 2-11	4,297	suspended
North American, No. 1 Montebello, Los Angeles Co.	36- 1-10	5,842	hd. sd. drlg.
Hillman & Long, No. 1 Montebello, Los Angeles Co.	28- 1-11	6,286	hd. sd. drlg.
Frontier Oil Co., No. 1 Pico, Los Angeles Co.	7- 2-11	5,246	P.B. 4,990
Oil & Gas Associates, No. 1 Pico, Los Angeles Co.	9- 2-11	3,194	wet; susp.
Fraser, N. M., No. 1 Saugus, Los Angeles Co.	31- 4-16	860	hd. sd. drlg.
International Oil Dev., No. 1 Saugus, Los Angeles Co.	24- 5-16	1,950	prod. test
Great Coastal Oil Co., No. 1 Elsinore, Riverside Co.	36- 5-5	1,825	hd. sd. drlg.
Albert Pet. Co., No. 1 Murrieta, Riverside Co.	23- 7-3	2,786	hd. sd. drlg.
Commander Oil Co., No. 1 Newport, Orange Co.	29- 6-10	197	gr. sd. drlg.
Twentieth Century Oil Co., No. 1 Huntington, Orange	36- 5-11	5,118	resume work
Leaseholders Dev. Co., No. 1 Atwood, Orange Co.	26- 3-9	4,185	sd. sh. drlg.
Cook Drlg. Co., No. 1 Anaheim, Orange Co.	36- 3-9	2,758	cmtd. 2,512
Standard Oil Co., No. 1 Anaheim, Orange Co.	36- 3-9	2,792	redrlg. 2,312
Tehama Pet. Co., No. 1 Chino, San Bernardino Co.	33- 2-8	3,060	P.B. 1,530

S. W. TEXAS WILDCATS

Week Ending December 28

Atascosa County

R. C. Lee's No. 1 Atascosa Trust, 160 ft. S line, 300 ft. E line, 152-ac. lease, J. T. Russell Sur. No. 1,222.
Drlg. 810 ft.

Robert McIntyre No. 1 S. A. Joint Stock Land Bank, 1,164 ft. SW line, 3,700 ft. SE line, J. D. Woodruff Sur. 246 ft.
S.D. 3,700 ft.

Bee County

Geo. W. Church's No. 1 Hearn, 2,000 ft. S No. 1 Wood.
Drlg. 5,247 ft.

Geo. M. Church's No. 1 Ray, 360 ft. E line, 330 ft. N line, C 40-ac. tract, Anna Burk Sur.
T.D. 692 feet, S.D., drlg. water well.

LaSalle Pet. Corp. No. 1 Ray, 360 ft. E line, 330 ft. N line, 40-ac. tract, Anna Burk Sur.
No report.

G. M. Richardson No. 1 Mengers, center 500-ac. tract, Ryan estate, William Allen Sur.
Moving in material.

D. C. Smith's No. 1 Robertson, 150 ft. N and W lines, T. B. Barton Sur., Abst. 114 Sand 3,025-59 ft.; running tubing.

Bexar County

A. J. Byrne's No. 1 Newman, 330 ft., S and W lines lease, L. Munoz Survey No. 66.
Location.

Jas. B. Cunningham's No. 1 L. F. Ridder, 960 ft. S of Nelson Road, 1,300 ft. from E line, Block 5,196, Sur. No. 68.
T.D. 660 ft.; standing.

J. Dupree No. 1 Coffey, Rodriguez Sur.
Running csg. 1,950 ft., blowing gas.

Morgan & Mayne's No. 1 Kirkwood, Dresque Sur., 9 miles SW of San Antonio.
Location.

Bert Mowinkle's No. 1 Kotsur, 434 ft. N line, 150 ft. W line, Loringville Sur.
Drlg. 329 ft.

H. B. Starkey's No. 1 McCloskey, 150 ft. W line, 1,525 ft. N line lease, Desague Sur.
T.D. 803 ft.; prep. to test.

Fred Thorman's No. 1 Sahn, 330 ft. E line, 600 ft. S line of tract, Sur. No. 3.
Spudded in; waiting on rotary rig.

Brooks County

California Co. No. 1 B. Garcia, 465 ft. N and W lines lease, B. Garcia tract, Salinas Sur.
Setting csg. 1,428 ft.

Dick Young No. 1 Singer, 50 ft. E line, 660 ft. N line, NW¼ SE¼, Sur. 312.
Rigging up.

Caldwell County

P. M. Armstrong's No. 1 Dunlap, 300 ft. W Bob Rose No. 1 Pierce, Dunlap area.
Moving in material.

Detroit-Texas Co. No. 3-A Dunlap, 40 ft. NW of No. 3, Sanders Sur.
Spudded in.

J. J. Elam's No. 1 Brown, 450 ft. SE and SW lines of lease, Souvereign Sur.
Rigging up.

W. H. Jennings' No. 1 McMahan, 250 ft. SE and SW lines, 68-ac. tr.
No report.

Marts & Beavens No. 1 Carter, G. Walker Sur.
Running csg. 1,922 ft.

Ogden & Reed No. 1 Lackey, 100 ft. SE line, 150 ft. NE line, 193-ac. tract, Damon Sur.
Moving in material.

M. R. Tinkle No. 1 Dunlap, 150 ft. SE line, 150 ft. road, Seale Sur.
Spudded in.

Cameron County

Joseph Anderson's No. 1 Browne, 330 ft. N line, Blk. 379, San Benito Subd., Espiritu Santo grant, 3 miles N Rio Hondo
Standing 5,195 ft.

Kingwood & Daniels' No. 1 Port Isabel Share 29.
Spudded in; S.D.

Dewitt County

Reginald F. Baurke's No. 1 W. C. Steinman Est., 937 ft. from N and S lines Uriah Blue 1-3 League.
To resume drilling; T.D. 2,412 ft.

Universal Oil, Gas & Mining Co. No. 1 Schuebel, 330 ft. from S and W lines of tract, Fitzgerald grant.
No report.

Duval County

J. H. Chandler's No. 2 Rita Pena, Share 4, Mesquite grant.
Drlg. 2,153 ft.

Chas. Daubert No. 1 Kreis, 2,600 ft. N line, 2,700 ft. E line, Sur. 518.
Drlg. water well.

Frank Gravis No. 1 C. K. Gravis, 1,650 ft. SE line, 990 ft. SW line, Sur. 250.
Drlg. 2,011 ft.

Howard Pet. Co.'s No. 1 Ruiz, sec. 4.
Location.

Magnolia Pet. Co. No. 1 Bernett, 330 ft. S and E lines, Sur. 434.
Location.

Magnolia Pet. Co.'s No. 1 Worden-Duval, 330 ft. N and W lines, Sec. 153.
T.D. 2,892 ft.; S.D. for water.

Plymouth Oil Co.'s No. 1 Cuellar, 330 ft. NW and NE lines, Sur. 123.
S.D.; T.D. 3,123 ft.

Rogers & Rogers No. 1 Sutherland, 330 ft. S and W lines, Sec. 120.
S.D. 2,606 ft.

Santa Clara Oil Co.'s (Atkins & O'Neil) No. 1-A James P. Welder Heirs, 330 ft. SW cor. 640-ac. tr. lying W of sec. 525, in sec. 103.
Drlg. 2,159 ft.

Trinity Drillers, Inc.'s No. 1 Sweden ranch (Driscoll-Sevier), 330 ft. N and E lines, Sec. 68, Santa Rosalie grant.
Drlg. 2,979 ft.

Edwards County

Paul Texas' No. 1 Stewart, C SE¼, Sec. 3, G.C.&S.F. Sur.
Spudded in.

Frio County

W. D. Bacon's No. 1 Burns, 2,500 ft. S and W line, Thomas Clifton Sur.
Drlg. 2,493 ft.

F. L. Thompson No. 1 La Batt, 2,085 ft. W line, 265 ft. N line, Uphus Sur. 169.
Location.

Goliad County

John W. Greer's No. 1 Pettus, Sebastiana Vela Sur.
Location.

Hendricks et al's No. 1 Gillette, 330 ft. of NW and SW lines of tract, G. Gomes Sur.
Location.

Potter et al No. 1 Lutenbacher, 330 ft. N and W lines, Blk. 25, Goliad townsite.
Rigged up.

Thompson Drlg. Co.'s No. 1 Hays Taylor estate, 900 ft. SE line, 2,400 ft. W cor. 791-ac. tract, Smith Sur.
Show oil 5,003-18 ft.; running tubing.

Gonzales County

Tull et al No. 1 Boska, 800 ft. S and E lines lease, B. McClure Sur.
Location.

Guadalupe County

Paul Armstrong and J. E. Clark No. 1 Brodnoux, 150 ft. S and E lines, 36-ac. tract, W. P. King Sur.
No report.

Jim Harper's No. 1 Flucker, 220 ft. NE line, 150 ft. NW line of tract, Smith Sur. No. 15.
T.D. 2,200 ft.; S.D.

O. W. Killam No. 1 Renecker, 150 ft. NW and NE lines, G. Chatwell Sur.
Drlg. 605 ft.

R. C. Robbins' No. 1 Manford, 1,200 ft. E line, 750 ft. S line, 100-ac. tr., Hodges ¾ league.
T.D. 1,160 ft.; S.D.

Hidalgo County

Gulf States Oil Co.'s No. 2 J. C. Engleman, 400 ft. S and E lines, Lot 3, Blk. 70, Las Mestanas grant.
Sidetracking 5,144 ft.

Gulf States Oil Co.'s No. 1 Delta Orchards, 660 ft. from N line, 400 ft. W line, Lot 2, Blk. 73, Las Westanas Grant.
Drlg. shale 1,487 ft.

Kingwood Oil Co.'s No. 2 Osca Daskom, 723 ft. N line, 1,805 ft. E line, Blk. 30, Porc. 45, J. of Reynosa
Set sur. csg. 690 ft.; W.O.C.

Maxwell's No. 1 Hidalgo Water Dist. No. 2, Lot 11, Blk. 20, Alamo Land & Sugar Co. Subd., Alamo tract, 10 miles SW McAllen.
Testing sand 715-21 ft.

Sloan et al's No. 1 Brock & Showers, 250 ft. S and W lines, Lot 9, Blk. 16, Por. 50
T.D. 6,003 ft.; P.B. 4,660 ft.; tested salt water; S.D. for orders.

Dayle L. Smith Oil Co.'s No. 1 Fairbanks & Young, Blk. 44, Por. 46, Jurisdiction of Reynosa.
Drlg. 915 ft.

Jim Hogg County

French Oil Corp.'s No. 1 E. Rodrigues, Share M-1, partition, Las Cuevitas grant
Rigging up.

S. L. Miller Oil Co.'s No. 1 Yeager, 150 ft. E line, 477 ft. S line, Blk. 6, Sur. 20.
Cored sand 3,535-45 ft.; lost hole; sidetracking 2,420 ft.

P. H. Neilson, trustee's No. 1 de la Garza, 550 ft. E line, 600 ft. S line, Blk. 293, Pippin Subd., Randado grant.
S.D. for water 610 ft.

Rankins No. 1 Vela, Lot 6, Sur. 5.
Drlg. 1,013 ft.

Jim Wells County

Houston Oil Co.'s No. 1 Hawkins & Wallace, 990 ft. S and E lines, Blk. 11.
Set surface csg.; W.O.C.

Smith & Son No. 1 McGill, 660 ft. S No. 1 Dilworth.
P.B. 2,325 ft.; W.O.C.

Kendall County

H. W. Martin's No. 2 Edwin Houston, I.T.&N. Sur. 593.
Location.

Kerr County

Auld and Evans' No. 1 Heffner, 660 ft. N line, 330 ft. E line, Sec. 13, B.S.&F. Sur.
Drlg. 523 ft. (second hole).

Kleberg County

J. W. Anderson No. 1 Kellam, 330 ft. S and W lines, Lot 8, Blk. 53, K.T.&I. Sur.
Moving in material.

John Bartlett's No. 1 Anton Deitz, SE¼ SE¼ Sec. 48, K.T.&I. Subd.
Drlg. 2,021 ft.

Clarke No. 1 Kellam, 330 ft. S and W lines, Blk. 5, Sec. 53, K.T.&I. Sur.
Derrick.

Fidelity Oil Co.'s No. 1 Fiato, 150 ft. S and E lines, Blk. 14, Sec. 40, K.T.&I. Sur.
Location.

Fidelity Exp. Co.'s No. 1 Sam Michalk et al, 430 ft. from N line and 775 ft. from S line, Blk. 37, Sec. 5; 5 miles SE Kingsville.
Drlg. 1,415 ft.

Gordon et al No. 1 Dietz, NE cor. Blk. 10, Sec. 56.
Coring dry sand 4,712 ft.

Lee County

J. Spivey's No. 1 First National Bank, 300 ft. S and E lines, 646-ac. tract, Mack Sur.
Location.

Live Oak County

E. H. Buchner's No. 1 McNeill, 300 ft. of SW cor. of 40-ac. tract, Blk. 3, McNeill Subd.
Location.

Carl Calloway's No. 1 Lyne, 895 ft. of W line, 330 ft. of N line, SW¼ SW¼ of W. M. Lyne Sur.
Dry and abd. 4,290 ft.

Holland Oil Co. and Maraydun Oil Co. No. 1 Lyne, 1,198 ft. SE line, 3,956 ft. SW line, Sec. 74, Lyne Abst. 763.
S.D. 4,390 ft.

Ogden & Reed's No. 1 Reed, 330 ft. SW and NW lines, I.&G.N. R.R. Sur. No. 5.
Rigging up.

Santa Clara Oil Co.'s (Atkins & O'Neil) No. 1 Corbett, sec. 2, R. H. Corbett Sur.
S.D. for water.

L. W. Steiren No. 1 Smith, T. B. Reese Sur.
Location.

McMullen County

Aransas Oil Co.'s No. 1 Reed, 330 ft. E line, 1,320 ft. S line, Spicer Sur.
T.D. 1,680 ft.; S.D.

J. F. Camp. No. 1 Byrn estate, Benjamin Odem Sur.
Dry and abd. 2,005 ft.

Darby Pet. Co. No. 2-B Hagist, 330 ft. S and E lines, SE¼ NW¼, Sur. 181.
Dry and abd. 2,010 ft.

C. O. Garney's No. 1 Hagist, 330 ft. N and W lines, SE¼, Sur. 6.
Location.

Reliance Oil & Royalty Co.'s No. 1 Shiner, 330 ft. NE cor. Sec. 29, C. C. Shumway Subvd.
Dry and abd. 1,701 ft.

Stewart et al's No. 1 G. Lowe, 2,000 ft. W line, 2,400 ft. S line, Geo. Bright Sur. No. 21.
T.D. 2,249 ft.; S.D.

S. Teichman No. 1 Henry, Torres Sur. No. 20.
Standing 374 ft.

Texas Pet. Co. No. 1 Hagist, 330 ft. E line, 4,500 ft. N line, Sur. 481.
Spudded in; S.D.

Medina County

F. Brown's No. 1 Brucks, 900 ft. W line, 660 ft. S line, Brucks tract, John Ward Sur. No. 18.
Standing 560 ft.

Frank Brown's No. 2 Winn, 600 ft. W line, 300 ft. N line, Ward Sur.
Spudded in; S.D.

Joe Dupree's No. 1 Brucks, 404 ft. N line, 165 ft. E line, Castro Sur. No. 248.
S.D. 680 ft.

W. C. Campbell's No. 1 McMenemy, 160 ft. S and W lines, Sur. 33.
Drlg. 1,873 ft.

Gates & Hills' No. 3-B Odem, Castro Sur. No. 174.
Standing; T.D. 465 ft.

Letro Oil Corp.'s No. 1 E. B. Forrest, 1,928 ft. from N line, 1,908 ft. from E line of 640-ac. tract, Blk. 69.
Running csg. 800 ft.

Nueces County

Bluff Pet. Co.'s No. 1 Bluntzer, 330 ft. SW and SE lines, NE 1,007-ac. tract, Sec. 6, Casa Blanco grant.
Drlg. 5,407 ft.

T. Graham No. 1 Donnigan, 40-ac. tract, Sec. 7.
Spudded in.

A. E. Masterson's No. 1 Eschberger, 330 ft. S and W lines, N½ NE¼ Sec. 37, Pauls Subd., Driscoll ranch.
Coring 4,221 ft.

La Jita Corp.'s No. 1 King, C SE¼ SW¼ Sec. 22.
Perforated 5,046-60 ft.; testing.

H. A. Meyer's No. 1 Harney, 550 ft. W line, 226 ft. S line, 3,200-ac. tract.
Location.

Sherman Nelson No. 1 Buckholt, 990 ft. E line, 150 ft. S line, S 114.8-ac. tract, Blk. 316.
Flowing oil and wash water 2,155-76 ft.

San Patricio County

Stanolind Oil & Gas Co.'s No. 1 Alame

Iron Works, 1,320 ft. N line, 330 ft. E line, Blk. 17, Fitzsimmons league.
Drlg. 4,430 ft.

Starr County

O. C. Borah No. 1 Virginia C. de Guerra, 3,500 ft. N line, 2,000 ft. E line, Share 92, Por. 68, Jurisdiction of Mier.
Drlg. 93 ft.

J. H. Clopton No. 1 Kelsey Bass, center Sec. 357.
Moving in material.

J. H. Clopton's No. 2 Bass, 2,460 ft. E line, Por. 87, 17,409 ft. W of Highway No. 4, Por. 87.
Dry and abd. 864 ft.

John Clopton No. 3 Roos & Bennett, 6,263 ft. S, M.P. Ry., 3,000 ft. E line, Share 1-A, Por. 92, Jurisdiction of Camargo.
Cored sand 2,461-2,608 ft.; blew out and ran wild; killed; setting csg.; to drill deeper.

Cook-Maris Arnold's No. 1 S.C.C.C., 220 ft. N line, 25 ft. E line, Lot 24, Por. 59.
Drlg. 3,643 ft.

Corsta Oil Co. No. 1 Haden et al, Share 47, Por. 80, Jurisdiction of Camargo.
No report.

H. C. Harter & Mayhew No. 3 Sanchez, 739 ft. N line, 1,112 ft. W line, Share 69, Por. 72, Jurisdication of Mier.
Drlg. 203 ft.

A. F. Velmoy No. 1 Garza, 5,130 ft. N line, 1,320 ft. W line, Share 36, Por. 70, Jurisdiction of Mier.
Drlg. shells and lime 419 ft.

McCurry & Yates' No. 1 S.C.C.C., 150 ft. W line, 510 ft. N line, Blk. 58, Porc. 89 Location.

McCurry & Yates' No. 2 S.C.C.C., 150 ft. E line, 510 ft. N line, Blk. 58, Porc. 89 Location.

Pedernal Oil Co.'s No. 1 Hicks et al, 187 ft. from NW line, 318 ft. from NE line of Blk. 6, Pedernal Grant.
T.D. 2,210 ft.; S.D.

Hiram M. Reed's No. 1 S.C.C.C., 888 ft. W line, 150 ft. N line, Blk. 66, Jefferies-Lambeth Subd., Porc. 89.
Perforated 2,511-22 ft.; flowing est. 10 bbls. per hour, fluid mostly salt water; Standing.

A. J. Weyel, tr. No. 1 Wood, 2,500 ft. N Rio Grande River, 2,500 ft. E line, Por. 84.
Drlg. shale 1,609 ft.

Webb County

Austin & Vernon's No. 1 Jeffries, 150 ft NE line, 1,170 ft. SE line, Blk. 13, Sur 1,453.
Drlg. 486 ft.

California Co. and Milis Bennett Prod. Co. No. 1 Billings, 1,500 ft. E line, 2,600 ft. S line, Sur. 45.
Drlg. 2,209 ft.

Clopton & Doffing's No. 1 Slator, center Blk. 29, Borrego grant.
Fishing 2,625 ft.

O. W. Killam No. 2 Ortiz, 660 ft. S line, 1,800 ft. E line, Sur. 1,805.
Derrick.

O. W. Killam No. 1-A Ortiz, 50 ft. N No. 1 Ortiz.
Drlg. 809 ft.

Magnolia Pet. Co.'s No. 1 Garcia-Arriba, 330 ft. S and E lines, Blk. 8, Albercas grant.
Dry and abd. 5,376 ft.

J. E. Neal No. 1 Laurel Bros., 1,320 ft. S and E lines, Sur. 119.
Drlg. 5,246 ft.

Payne & Martinez's No. 1 Ferry, 150 ft. NE and NW lines, Sur. 177.
Location.

Arthur H. Wray's No. 1 Geo. Stuempge, Share 1, Brewster pasture, Galan grant Rebldg. derrick pulled in while fishing.

S. S. & B. Oil Co.'s No. 6 Lone Star Co., 7,700 ft. NE line, 330 ft. SE line, Por. 13.
S.D. for orders; T.D. 659 ft.

Willacy County

Kingwood Oil Co.'s No. 1 Santa Rosa, Inc. 160 ft. from E line, 637 ft. from S line of Sec. 30, Blk. 16, Share 44, San Juan de Carricitas grant.
P.B. 4,900 ft.; to perforate 4,858-87 ft.

Zavalla County

Buttram Pet. Co. No. 1 White Cotton, 2,340 ft. W line, 330 ft. N line, A.B.&M. Sur. No. 1.
Derrick.

Leona Oil Co. and Witherspoon Oil Co. No. 1 George West, 3,565 ft. N line, 330 ft. E line, C. Bustillo Sur. No. 1.
Location.

Zapata County

Murt Cullinan's No. 1 Gutierrez, Blk. 4, Share 2, Fansler Partition, Comitas Grant.
Drlg. 1,254 ft.

J. W. Magee No. 1 Bruni, 330 ft. NE and SE lines, Blk. 45, Blas Uribe grant.
Drlg. 2,007 ft.

J. J. O'Hern's No. 1 Raymond, 330 ft. NW line, 330 ft. NE line, Blk. 5, Share E, Por. 27.
Fishing 2,220 ft.

S. W. TEXAS PROVEN

Week Ending December 28

Caesar—Bee County

Caesar Oil Co.'s No. 6 R. E. Miller, N offset to Commodor's No. 4 Grissom.
Location.
Top sand 3,081 ft.; comp.; no gauge.

Luling O. & G. Co. No. 1-D Ruhman, Blk. 22, J. M. Thurston Sur.
Set surface csg. 90 ft.

Sun Oil Co.'s No. 1 Barroum, 990 ft. N line, 330 ft. E line lease.
Drlg. 73 ft.

Dirks—Bee County

Devonian Oil Co. No. 1 Young, 660 ft. W Home No. 8 Bassinger, 330 ft. E line, M. O. O'Brien Sur.
Drlg. 2,311 ft.

H. Y. Oil Co. No. 1 Young, 1,500 ft. N, 45 deg. W, SE cor. O'Brien Sur.
Drlg. 3,327 ft.

Illinois Pet. Co.'s No. 2 Rapp, 330 ft. N line, 66-ac. tract, 660 ft. W No. 1 Rapp, C. A. Dugat Sur.
Rigging up.

Illinois Oil Co. No. 3 Hall, 1,710 ft. SE line, 330 ft. SW line tract, Butler Sur.
Sand 3,927-45 ft.; W.O.C.

Illinois Pet. Co.'s No. 3 Rapp, 330 ft. N line 66-ac. tract, 660 ft. W No. 2 Rapp, C. A. Dugat Sur.
Location.

Texas Co. No. 9 Young, J. Butler Sur.
Sand 3,834-89 ft.; W.O.C.

Texas Co. No. 13 Young, 530 ft. NE No. 11, T. J. Butler Sur., Abst. No. 411.
Sand 3,961-42 ft.; tested salt water; P.B. to 3,928 ft.; comp. 3 bbls. per hour on ¼-in. choke.

Ray—Bee County

Duncan & Perkins No. 2-B Campbell, W. B. Blanchard Sur.
Sand 3,959-63 ft.; comp.; no gauge.

Simms Oil Co. No. 7 Ray, 660 ft. S No. 5, W. B. Blanchard Sur.
Sand 3,941-44 ft.; comp.; no gauge.

Simms Oil Co. No. 8 Ray, 660 ft. S No. 5 Ray, W. B. Blanchard Sur., Abst. 133.
No report.

Simms Oil Co.'s No. 1-B Campbell, 150 ft. S and E lines, Lot 19, Bucher Subd., W. B. Blanchard Sur.
Location.

Sun Oil Co.'s No. 3 Ray, 640 ft. W No. 2 Ray.
Rigged up.

R. J. Worthington's No. 1 Chestnut, 330 ft. NW cor. 40-ac. tract, B. O. Hadley Sur.
Spudded in; S.D.

Rutledge—Bee County

Worth Oil Co.'s No. 4 Rutledge, 660 ft. S No. 2 Rutledge, Hadley Sur.
Location.

Tuleta—Bee County

Highland Oil Co.'s No. 4 Campbell, 40-ac tract, B.&B. Sur.
Spudded in.

Gas Ridge—Bexar County

American Gas Co. No. 5 Oliver, Rodriguez Sur.
No report.

Von Ormy—Bexar County

Joe Dupree No. 1 Russell, 1,500 ft. SE No. 1 Coffey.
Spudded in.

R. Ingersoll No. 1 Mann, 180 ft. S line, 200 ft. E line of Survey.
Drlg. 321 ft.

B. Shadrock's No. 5 Barragan, 150 ft. S and E lines, tract.
Rigging up.

F. H. Shaver No. 2 Bitter, 300 ft. NE No. 1, Baerrera Sur.
Moving in material.

Dale—Caldwell County

Sun Oil Co. No. 1 Miears, 330 ft. NE and SE lines, 49.5-ac. lease.
Drlg. 575 ft.

Salt Flat—Caldwell County

Dawn Oil Co. No. 1 Tiller, 37½-ac. tract.
Location.

Government Wells Pool—Duval County

Tom Graham No. 3 Webb, 330 ft. E line, 1,320 ft. N line, 68½-ac. tract, Sur. 41.
Rigging up.

Magnolia Pet. Co. No. 5 Bryan White, 330 ft. S and E lines, NE¼ NE¼ Sur. 64.
Testing 2,302-09 ft.

Magnolia Pet. Co. No. 6 Bryan White, NE¼ NE¼ Sur. 64.
Location.

Hoffman—Duval County

Argo Oil & Royalty Co. No. 1 Smith-Corkill, N¼, Sur. 61.
Abd. location.

Kohler—Duval County

California Co. No. 2 Grury, 990 ft. N and E lines, Sur. 157.
Recmtg. csg. at 2,600 ft.

Loma Novia—Duval County

Bridwell Oil Co. No. 2 Pennia, Blk. 7, Sur. 78.
Comp. 22 bbls. per hour; T.D. 2,534 ft.

Bridwell Oil Co. No. 3 Pennia, Blk. 7, Sur. 78.
Comp. 20 bbls. per hour; T.D. 2,530 ft.

Bridwell Oil Co. No. 4 Pennies, Blk. 7, Sur. 78.
Set csg. on sand; drlg. plugs.

Rodney DeLange No. 5 B.C.C., Sur. 76.
Skidding derrick.

Duval Oil Corp. No. 2-B Moody, 330 ft. S and E lines, 80-ac. tract, Surs. 76 and 60.
Rigging up.

Duval Oil Corp. No. 6-B Moody, 990 ft. W line, 330 ft. S line, S½ NW¼, Sur. 76.
Set csg. 2,889 ft.; W.O.C.

Duval Oil Corp. No. 9-B Moody, 330 ft. N and E lines, SE¼ Sec. 60.
Moving in material.

Gilcrease Oil Co. No. 2 McLean, SW¼, Sur. 62.
Location.

Gravis & Gilcrease Oil Co. No. 3 Byland, Blk. 4, Sur. 78.
Comp. 25 bbls. per hour; T.D. 2,635 ft.

Frank Gravis No. 4 Byland, Sur. 78.
Drlg. 1,917 ft.

C. Hamill (J. I. Newton) No. 1-D Hahl, 330 ft. N and E lines, N½, NW¼ Sur. 76.
Sand 2,612-29 ft.; comp. 22 bbls. per hour.

C. Hamill No. 2-D Hahl, Sur. 76.
Drlg. 1,220 ft.

C. Hamill No. 3-C Hahl, Sec. 63.
Location.

C. Hamill No. 4-C Hahl, Sec. 63.
Location.

C. Hamill No. 4-D Hahl, 330 ft. S and E lines, NE¼ NW¼, Sur. 76.
Comp. 30 bbls. per hour; T.D. 2,655 ft.

C. Hamill No. 5-C Hahl, 990 ft. S and E lines, Sec. 63.
Testing 2,617 ft.

Hamill, Smith & Ogden's No. 13 Hubbard, 330 ft. N and E lines, NE¼, SE¼, Sec. 77.
Derrick.

Hamill, Smith & Ogden's No. 14 Hubbard, 330 ft. S and E lines, NE¼, SE¼, Sec. 77.
Location.

Hamill, Smith & Ogden No. 31 Hubbard, 330 ft. NE cor. SE¼ SW¼, Sur. 77.
Drlg. 2,224 ft.

Hamill, Smith & Ogden's No. 32 Hubbard, 330 ft. SE cor. SE¼ SW¼ Sur. 77.
Location.

Highland Oil Co. No. 3 B.C.C., Sec. 76.
Drlg. 2,109 ft.

Highland Oil Co. No. 4 B.C.C., Sec. 76.
Location.

Highland Oil Co. No. 5 Hubbard, 2,970 ft. N line, 330 ft. W line, W½ Sur. 73.
Sand 2,675-2,702 ft.; comp. 25 bbls. per hour on ¼-in. choke.

Highland Oil Co. No. 6 Hubbard, Sur. 73.
Coring 2,670 ft.

Humble O. & R. Co. No. 6-A Hubbard, 1,134 ft. W line, 330 ft. N line, Sec. 84.
Skidding derrick.

Humble O. & R. Co. No. 6-C Welder, 2,110 ft. W line, 2,263 ft. S line, Sec. 554.
Coring shale 2,801 ft.

Humble O. & R. Co. No. 5-A Hubbard, 330 ft. N and E lines, Sur. 84.
Comp. 24.97 bbls. per hour on 1-in. choke; T.D. 2,833 ft.

Humble O. & R. Co. No. 1-B Hubbard, E½, Sur. 72.
Location.

Magnolia Pet. Co. No. 3 Hahl, 1,650 ft. N line, 330 ft. W line, Sur. 67.
Rigging up.

Montour Prod. Co. (Lipscomb & Daubert) No. 3 Hubbard, 330 ft. S and E lines, S½, NE¼, Sur. 75.
Drlg. 813 ft.

Reynosa Oil Co. No. 1-A Mary Davison, Sur. 114.
Drlg. 1,611 ft.

Rosan Oil Co. No. 5 Hubbard, 330 ft. S and W lines, Sur. 84.
S.D. 1,350 ft.

Russ Pet. Co. No. 3 B.C.C., Sur. 76.
Drlg. 2,157 ft.

Russ Pet. Co. No. 4 B.C.C., Sur. 76.
Rigging up.

Shell Pet. Corp. No. 24 Hubbard, E½ Sur. 77.
Drlg. shale 500 ft.

Shell Pet. Corp. No. 25 Hubbard, E½ Sur. 77.
Derrick.

Magnolia Pet. Co. No. 13 Hahl, 640-ac. tract, Sur. 67.
Location.

Russ Pet. Co.'s No. 1 Duke, 330 ft. N and W lines, 40-ac. tract, Sec. 64, J. Poitevent Sur.
Location.

Reynosa Oil Co. No. 2-B Mary Davison, 990 ft. S and E lines, Sur. 114.
Location.

Shell Pet. Corp. No. 17 Hubbard, 1,619 ft. W line, 330 ft. N line, E½, Sur. 77.
Comp.; swabbed 16.06 bbls. per hour; T.D. 2,745 ft.

Shell Pet. Corp. No. 18 Hubbard, 330 ft. N and E lines, E½ Sur. 77.
W.O.C. 2,778 ft.

Texas Co. No. 6 Wendt, 660 ft. W No. 5, 330 ft. N line, Sec. 68.
Sand 2,583-89 ft.; W.O.C.

Texas Co. No. 12 Vela, 4,290 ft. E line, 330 ft. S line, Sur. 42.
T.D. 2,614 ft.; killing to rework.

Texas Co. No. 13 Vela, 330 ft. S line, 990 ft. W line, S½, Sur. 42.
Sand 2,578-91 ft.; W.O. shooter.

Texas Co. No. 14 Vela, S½, Sur. 42.
Location.

Texas Co. No. 14 Wendt, 330 ft. S line, 4,290 ft. W line, 458-ac. tract, Sec. 68.
T.D. 1,359 ft.; pulled in derrick.

Texas Co. No. 15 Wendt, 330 ft. S line, 4,950 ft. W line, 458-ac. tract, Sec. 68.
Location.

Texas Co. No. 18 Vela, Sur. 42.
Drlg. 2,410 ft.

Piedra Lumbre—Duval County

Magnolia Pet. Co. No. 2 D.C.R.C., 330 ft. S line, 990 ft. E line, Sur. 100.
Drlg. 1,507 ft.

Sarnosa—Duval County

Magnolia Pet. Co. No. 1 D.C.R.C., Sur. 573.
Drlg. 2,644 ft.

Seven Sisters—Duval County

Atlantic O. P. Co. No. 6-A Welder, 1,650 ft. N line, 990 ft. W line, NE¼, Sur. 385.
T.D. 2,125 ft.; S.D.

Atlantic O. P. Co. No. 7-A Welder, 2,310 ft. N line, 990 ft. W line, NE¼, Sur. 385.
Moving in material.

Atlantic Oil Prod. Co. No. 4-B Welder, 330 ft. S and W lines, S½ SE¼, Sur. 385.
Set csg. 2,528 ft.; W.O.C.

Atlantic O. P. Co. No. 1-C Welder, 330 ft. N and E lines, NW¼, Sec. 591.
Location.

Buchanan & Blanco Oil Co. No. 5 Wood-Welder, 1,650 ft. N line, 330 ft. E line, 82.1-ac. tract, sec. 385.
Swabbing 2,499 ft.

Buchanan & Blanco Oil Co. No. 6 Wood-Welder, 330 ft. S and E lines, E½ SW¼, Sur. 385.
Moving in material.

George Coates No. 1 P. L. Telford, 330 ft. N and W lines, Sur. 386.
Rigging up.

Diamond Half Oil Co. No. 1 R. Serna, 330 ft. N and W lines, N½ NE¼, Sur. 384.
Sand 2,202-20 ft.; comp. 40 bbls. per day.

Humble O. & R. Co. No. 3-A Serna, 330 ft. N and W lines, SW¼, Sur. 384.
Coring sandy shale 2,134 ft.

Mid-Continent Pet. Corp. No. 4 Serna, 990 ft. E line, 2,080 ft. N line, Sur. 382.
Set csg. 2,470 ft.; W.O.C.; T.D. 2,480 ft.

Mid-Continent Pet. Co. No. 5 Serna, 990 ft. W line, 330 ft. N line, S½ N½ Sur. 384.
Skidding derrick.

Navarro Oil Co. No. 1 J. F. Welder, 330 ft. E line, 2,970 ft. N line, Sur. 383.
Location.

Pan American Oil Co. No. 1 Welder, 990 ft. S and E lines, Sur. 381.
Rigged up.

Santa Clara Oil Co. (Atkins & O'Neil), No. 7 Wood-Welder, 990 ft. N line, 1,320 ft. E line, NW¼, Sur. 385.
Set csg. 2,475 ft.; running tubing.

Santa Clara Oil Co. and H. H. Henderson No. 4-C Welder, NE 160-ac. tract, Sur. 383.
Drlg. 1,311 ft.

Shell Pet. Corp. No. 2 Welder, 990 ft. N line, 330 ft. E line, W½, SW¼, Sur. 385.
Swabbing 2,482 ft.

Westheimer & Daube No. 2 Z. Campos, 330 ft. N and E lines, Sur. 224.
Drlg. 1,469 ft.

Pearsall—Frio County

Amerada Pet. Co. No. 1 Michael, 1,400 ft. N line, 466 ft. W line, Alexander Lynch Sur. 321.
Drlg. 5,223 ft.

T. Davis No. 1 Halff & Oppenheimer, 239-ac. tract, J. D. Clare Sur. 326½.
Location.

Hords Creek—Goliad County

Brown & Wheeler No. 1-F Kaufman, 330 ft. NE and SE lines, Blk. 1, Trevino Sur.
Drlg. 2,013 ft.

M. I. Richardson's No. 1 Kaufan, 330 ft. NW and SW lines, 40-ac. tr.
Location.

Sun Oil Co.'s No. 1 Kaufman, 990 ft. SE line, 330 ft. SW line lease, Trevino Sur.
Location.

Southwest Durst Creek—Guadalupe

Stegal & Gallagher's No. 2 Lay, 20-ac. tr., Davis Sur.
Swabbing; T.D. 2,395 ft.

Mercedes—Hidalgo County

Union Sulphur Co. No. 1 American Rio Grande L. & I. Co., 400 ft. N and E lines, Lot 229, Blk. 59.
Resetting liner and screen.

Union Sulphur Co.'s No. 5 American Rio Grande L. & I. Co., 230 ft. N line, 350 ft. W line, Tract 2,082.
Sand 7,488-7,506 ft.; swabbing oil and water.

Samfordyce—Hidalgo County

J. H. Anderson's No. 1 Guerra, 233 ft. N line, 285 ft. W line, Tract 254, Por. 39.
Location.

Weekly Oil Corp.'s (Cortez) No. 2-C Smith, 330 ft. from N line, 690 ft. from W line of NE 40 acres of Tract B-3, Porcion 41.
Location.

Weekly Oil Corp.'s (Cortez) No. 3-C Smith, 330 ft. from N line, 1,150 ft. from W line of NE 40 acres of Tract B-3, Porcion 41.
Location.

Ralph E. Fair, Inc.'s (Kingwood) No. 4 Guerra, 165 ft. S line, 1,150 ft. E line, Share 12, Por. 41.
Location.

Harrison, Davis & Bishop's No. 1 Guerra, 330 ft. S line, 616 ft. W line, S 40-ac., Tract 12, Por. 41.
M.I.M.

Harrison-Davis-Bishop's No. 7 Guerra, 330 ft. N line, 623 ft. E line, 40-ac. tract, Tract 12, Por. 41.
Drlg. plugs; to perforate 2,759-62 ft.

Harrison-Davis-Bishop's No. 8 Guerra, 330 ft. N line, 1,083 ft. E line, 40-ac. tract, Tract 12, Por. 41.
Location.

Harrison-Davis-Bishop's No. 9 Guerra, 330 ft. N and W lines, 40-ac. tract, Tract 13, Por. 41.
Location.

W. F. Lacy No. 1 Felipe Farias heirs, W 10-ac. tract, Tract 255, Por. 39.
Tentative location.

W. F. Lacey's No. 1 Lula George, 75 ft. S and W lines, 5-ac. tract, Tract 13, Por. 41.
Location.

W. F. Lacey's No. 2 Lula George, 75 ft. S and W lines, 10-ac. tract, Tract 13, Por. 41.
Location.

W. F. Lacey's No. 3 Lula George, 75 ft. S line, 550 ft. W line, 10-ac. tract, Tract 13, Por. 41.
Location.

Navarro Oil Co. No. 1 Francisco Guerra.

220 ft. S and E lines, 20-ac. tract, Tract 12, Por. 41.
D.S.T. 1,100 ft. oil 12 min.; no pressure; to perforate csg. at 2,767-71.5 ft.
Weekly Oil Corp. No. 3 F. Guerra, 220 ft. N and E lines, 20-ac. lease, Tract 12, Porc. 41.
Drlg. shale 1,762 ft.

Sandia—Jim Wells County

J. E. Walsh No. 1 Wade, 700 ft. N line, 330 ft. E line, Lot 3, Blk. C, Lopez de Jean Grant.
Set csg. 2,931 ft.; W.O.C.

Kingsville—Kleberg County

Fidelity & Culbertson Exploration Co.'s No. 2 Henry, Lot 2, Blk. 49.
Location.

Fort Merrill—Live Oak County

Slick-Urschel Oil Co.'s No. 1 Watson & Shipp, 330 ft. NE line, 990 ft. SE line lease, offset Mills Bennett's No. 1 discovery well.
Tested 4,636-43 ft.; 210 ft. oil, 15 ft. salt water in 10 min.; W.P. 125 lbs.

McNeill—Live Oak County

Bence Oil Corp.'s No. 1 E. Mahoney, 155 ft. from NW line of J. H. Harvey tract, 3,109 ft. SW of highway in Mark Killelly Sur.
S.D. 78 ft.
Luray Oil Co.'s No. 1 Little, NE offset, Whittington's No. 2 Little, M. M. Shipp Sur.
D.S.T. 4,969-5,016 ft.; 90 ft. mud and oil; no pressure.
J. O. Whittington's No. 4 Little, 990 ft. S and E lines, Shipp Sur.
Location.

Cailliham—McMullen County

Chas. Hall No. 1 McClaugh, 1,304 ft. SW line, 935 ft. N line, 200-ac. tract, Holy Sur.
Spudded in; S.D.
Luray Oil Co. No. 1 Garner, 150 ft. S Frio River, Jas. Garner Tract.
Location.
Sunray Oil Co. No. 7 Glass, 150 ft. S river, Holy Sur.
Drlg. 43 ft.
I. W. Taylor No. 1 Lark, 150 ft. S, NW cor. Blk. 56, Scrugham Sur. 973.
Location.

Jacob Pool—McMullen County

Loma Oil Co. No. 43-A Jacob, 2,080 ft. S. 1,540 ft. W line, 640-ac. lease, Jacob Sur. 2.
Dry and abd. 1,005 ft.
Chas. Weist's No. 1 Lark, 150 ft. S and W lines, NW¼, Sec. 114.
T.D. 1,027 ft.; standing.

Baldwin—Nueces County

Houston Oil Co.'s No. 4 Baldwin, 330 ft N and E lines 425-ac. tract, B.S.&F. Sur. No. 165.
Location.
Magnolia Pet. Co. No. 5 Baldwin, 1,095-ac. tract, Sur. 165.
Location.

Clara Driscoll—Nueces County

Santa Clara Oil Co. (Atkins & O'Neil) No. 2 Driscoll, 4,456.2 ft. N line, 1,650 ft. E line, Wm. Gamble Sur.
Sand 3,739-74 ft.; W.O.C.

Saxet Heights—Nueces County

Benson Drlg. Co. No. 1 Phillips, 3.6-ac. tract.
D.S.T. at 4,095 ft.; 1,700 ft. oil in 10 min.; W.P. 30 lbs.; drlg. plugs.
J. K. Culton No. 2 Whelan, 330 ft. S and W lines 60-ac. tract.
Moving in material.
Republic Natural Gas Co. No. 1 Baldwin, 1,123 ft. S line, 330 ft. W line, Blk. 30, Russell Farm Tracts.
Moving in material.
W. A. R. Oil Co. No. 1 Krus, 330 ft. E line, 225 ft. S line, 4-ac. tract, Villareal Sur.
Tested 2,500 ft. oil at 4,090 ft.; running tubing.

Saxet—Nueces County

Benson & Cargray No. 1 Clarkewood townsite, Blk. 1.
Derrick.
Conservative Oil Co.'s No. 2 K. Hutchins, 330 ft. S line, 430 ft. W line, Blk. 29.
Coring 2,709 ft.
Tom Graham No. 1 Donigan, 330 ft. N and W lines, Sec. 7.
Drlg. 723 ft.
Tom Graham No. 1 Fiato, 330 ft. S and E lines, 20-ac. tract, Blk. 14, Sheppard Farm Lots.
Moving in material.
Tom Graham's No. 1 Sam Kaler, 150 ft. S and E lines, 10-ac. tract, Villareal Sur.
Location.
Houston Oil Co.'s No. 5 Walton, 330 ft. NE line, 542.28-ac. tr., Villareal Survey.
Location.
Houston Oil Co.'s No. 7 Morgan, 330 ft. N and W lines, 494.5-ac. tr., Sec. 7.
Spudded in.
Houston Oil Co.'s No. 8 Morgan, 330 ft. N line, 987 ft. W line, 494.5-ac. tr., sec. 7.
Location.
Houston Oil Co.'s No. 3 Hunter, 330 ft. S and W lines, 159.87-ac. tr., Sur. 586.
Location.
Magnolia Pet. Co.'s No. 2 Sanders, 330 ft. SW cor. 110-ac. tract, Sec. 165, B.S.&F. Sur.
Derrick.
Republic Natural Gas Co. No. 12 Dunn, 300 ft. N line, 670 ft. NE No. 11, Villareal Sur.
Comp. 712 bbls. per day.
Southern Minerals Corp. No. 3-A Isensee, 17-ac. tract, C. Land Sur., Abst. 975.
Comp. 72 bbls. in 6 hrs. on ¼-in. choke; T.P. 500 lbs.; C.P. 1,100 lbs.; T.D. 4,405 ft.
Southern Minerals Corp. No. 4-A Isensee, 17-ac. tract, C. Land Sur., Asbt. 975.
Derrick.
Texon Royalty Co.'s No. 1 Taggert, 330 ft. N and E lines, Block 5, Sur. 401.
P.B. 2,200 ft.; comp. as gasser; C.P. 975 lbs.

Plymouth—San Patricio County

Conroe Drlg. Co.'s No. 2 D. Welder, sec. 47.
Dry and abd. 5,934 ft.
Conroe Drlg. Co. No. 1-G Welder, 466 ft. E line, 10 ft. S line, Sec. 47.
Cored sand 5,670-75 ft.; D.S.T. 275 ft. oil in 10 min.; W.P. 150 lbs.; W.O.C.
Heep Oil Corp. No. 11-E Welder, sec. 46.
Prep. to test 5,650 ft.
Magnolia Pet. Co. No. 5 Corpus Christi Bank, 1,349.7-ac. tract, H. Hunter Sur.
Drlg. hard shale 4,855 ft.
Plymouth Oil Co.'s No. 24-C Welder, 934 ft. W line, 5,893 ft. S line, Sec. 71.
Comp.; flowing in pits on 5/32-in. choke; T.D. 5,483 ft.
Plymouth Oil Co. No. 25-C Welder, 3,016 ft. S line, 1,100 ft. W line, Sec. 71.
Sidetracking 4,192 ft.
Plymouth Oil Co. No. 26-C Welder, 1,863.7 ft. W line, 3,911.7 ft. S line, sec. 71.
Drlg. 4,970 ft.
Plymouth Oil Co. No. 27-C Welder, 4,797 ft. S line, 1,071 ft. W line, Sec. 71.
Set surface csg. 350 ft.
Plymouth Oil Co. No. 28-C Welder, 216 ft. S line, 2,325 ft. W line, Sec. 49.
Location.
Geo. E. Smith No. 2 Britton, 330 ft. N line, 990 ft. W line, Blk. 8.
Moving in material.
Sun Oil Co. No. 1 Edgar, 330 ft. N and W lines, Blk. 1, Sec. 34.
Drlg. sandy shale 4,129 ft.
Sun Oil Co. No. 2 Edgar, 330 ft. S and W lines, Blk. 1, sec. 34.
Set surface csg. 375 ft.; W.O.C.
Sun Oil Co. No. 3 Hunt, 466 ft. N and E lines lease, Blk. 34, Lot 5.
Comp. 51 bbls. in 6 hrs. on 5/32-in. choke; T.D. 5,623 ft.
Sun Oil Co. No. 4 Hunt, 466 ft. S and W lines lease, Blk. 34, Lot 5.
Location.
Sun Oil Co. No. 5 Hunt, 1,035 ft. NE No. 4, 370 ft. Chiltipin Creek.
Rigging up.

Guerra—Starr County

Sun Oil Co. No. 8-B M. Guerra & Sons, 1,980 ft. N, 800 ft. W No. 6-B, Las Cueritas Sur.
T.D. 2,267 ft.; dry and abd.
Sun Oil Co. No. 3-E Guerra, Las Cuevitas Sur.
Drlg. 620 ft.

Rio Grande City—Starr County

John Clopton No. 1 Domingo Garcia, Blk. 1, Share 37-A, Por. 80.
Spudded in and S.D.
Fech Oil Co. No. 4 Frank Dayno, Blk. 4, Tract 77-A, Porc. 81.
Sand 1,454-58 ft.; set csg. 1,454 ft.

Samfordyce—Starr County

Phillips Pet. Co. No. 1 Garcia Land & Cattle Co., 320 ft. E line, 304 ft. S line lease, W½ Por. 100.
Gas sand 2,802-10 ft.; shale 2,810-13 ft.; Comp. 3 bbls. per hour on ¼-in. choke.
Porter & Pickens No. 3-A Garcia Land & Cattle Co., on line between Blks. 4 and 5, Por. 100.
Cored saturated sand 2,808-12 ft.; comp. 40 bbls. per day on 3/32-in. choke.
Porter & Pickens No. 4-A Garcia Land & Cattle Co., on line between Blks. 4 and 5, W½ Por. 100.
Moving in material.
Porter & Pickens' No. 2-B Garcia Land & Cattle Co., 330 ft. N and W lines, 60-ac tract, NW cor. Blk. 4, Por. 100.
Location.
Porter & Pickens' No. 3-B Garcia Land & Cattle Co., 330 ft. W line, 914 ft. S line 60-ac. tract, Blk. 5, Por. 100.
Location.
Skelly Oil Co.'s No. 6 Seabury, 319 ft. S line, 248 ft. E line, E 15-ac., NW 30 ac., S 263.5-ac., Tract 256, Por. 38, J of Reynosa.
Location.
Skelly Oil Co.'s No. 8 Seabury, 319 ft. N line, 198 ft. W line, 12-ac. tract, Tract 256, Por. 38.
Location.
Skelly Oil Co.'s No. 10 Seabury, 440 ft. N line, 330 ft. E line, 24-ac. tract, Tract 256, Por. 38.
Location.
Skelly Oil Co. No. 11 Seabury, Tract 256, Por. 38.
Cored sand 2,811-21 ft.; comp. 9 bbls. per hour on 3/16-in. choke.
Skelly Oil Co. No. 12 Seabury, 219 ft. S and W lines, 10-ac. tract, Tract 256, Por. 38.
Tentative location.

Carolina-Texas—Webb County

Holland Reavis No. 1 Webster, 150 ft. S and W lines, NW¼, NE¼, Sur. 684.
W.O.C. 195 ft.

Cole—Webb County

Cole Pet. Co. No. 92 Ross, Benavides, Blk. 1, Sur. 13.
Drlg. 2,365 ft.

Lopez—Webb County

C. F. Lewis' No. 2 Lopez, 330 ft. N and W lines, Sur. 110.
Set csg. 2,240 ft.; W.O.C.
Mills Bennett Prod. Co. No. 1 F. L. Garcia, Sur. 112.
Drlg. 1,813 ft.
Mills Bennett Prod. Co. No. 3 Montemayor, 2,310 ft. W line, 2,042 ft. N line, Sur. 114.
Drlg. 1,332 ft.
Mills Bennett Prod. Co.'s No. 1 A. Lopez, SW cor. tract, Share 13, Tract 111.
Location.
Montour Prod. Co.'s No. 1 Coffey, 330 ft. W line, 2,691 ft. S line, 20-ac. tract, Sur. 111.
Comp. 15 bbls. per hour; sand 2,211-22 ft.
Montour Prod. Co. No. 2 Coffey, 330 ft. S and E lines, Sec. 112.
Drlg. 1,511 ft.
G. G. Mortimer No. 1 Billings, 330 ft. S and E lines, Sur. 7.
Location.
G. G. Mortimer No. 2 Alonzo Lopez, 330 ft. S and W lines, Sur. 113.
Drlg. plugs; T.D. 2,241 ft.
G. G. Mortimer No. 2 Maria Lopez, 330 ft. N and E lines lease, Sur. 112.
Location.
G. G. Mortimer No. 3 Maria Lopez, 330 ft. S and W lines lease, Sur. 112.
Location.
G. G. Mortimer No. 3 Alonzo Lopez, Sur. 113.
Location.
G. G. Mortimer No. 5 M. Lopez, 330 ft. S and E lines, lease, Sur. 114.
Comp. 12 bbls. per hour on ½-in. choke; T.D. 2,212 ft.
G. G. Mortimer No. 6 M. Lopez, 990 ft. E line, 330 ft. S line, lease, Sur. 114.
Location.
G. G. Mortimer No. 7 M. Lopez, 1,650 ft. E line, 330 ft. S line, lease, Sur. 114.
Location.
G. G. Mortimer's No. 1-A Montemayor 330 ft. N and W lines lease, Sur. 114.
Location.
G. G. Mortimer No. 2 A. Montemayor, 990 ft. N line, 330 ft. W line, lease, Sur. 114.
Location.
Sierra Oil & Royalties Co. (Nixon & Talbot) No. 2 Billings, Sur. 113.
Comp. 15 bbls. per hour on ½-in. choke; T.D. 2,183 ft.
Superior Oil Co. No. 1 Billings, 330 ft. S and E lines, Sur. 7.
Location.
Superior Oil Co. No. 2 Billings, Sur. 103.
Set csg. on sand; W.O.C.

O'Hern—Webb County

O. W. Killam's No. 43 Bruni, Sur. 9, Foltz Subd., Arispe grant.
T.D. 4,055 ft.; dry and abd.
Magnolia Pet. Co. No. 22 Brennan-Benavides, center Blk. 260.
Comp. 14 bbls. per hour; T.D. 2,807 ft.
Magnolia Pet. Co. No. 24 Brennan-Benavides, center Blk. 422.
Comp.; no gauge; T.D. 2,790 ft.
Magnolia Pet. Co. No. 25 Brennan-Benavides, center Blk. 463.
Location.
Magnolia Pet. Co. No. 26 Brennan-Benavides, center Blk. 353.
Location.
Magnolia Pet. Co. No. 4-X Benavides, center Blk. 156, Hale Subd., Arispe grant.
Location.
James P. Nash No. 6 Benavides, 347 ft. NW line, 313 ft. SW line, Blk. 251.
Rigging up.
J. J. O'Hern's No. 4 Brennan-Benavides, 347 ft. NW line, 313 ft. SW line, Blk. 196.
Location.
Texas Co. No. 9 Brennan-Benavides, 310 ft. NE line, 155 ft. NW line, Blk. 423.
Comp. 38 bbls. per hour on ¾-in. choke; T.D. 2,816 ft.
Texla Oil Corp. No. 1 S. Benavides, center Blk. 294, Hale Subd.
Location.
Texla Oil Co. No. 2-A S. Benavides, 347 ft. NW line, 313 ft. SW line, Blk. 249.
Drlg. 1,503 ft.
Texla Oil Co. and Nash No. 1-B S. Benavides, center Blk. 293, Hale Subd.
Comp. 16 bbls. per hour; sand 2,521-26 ft.

Escobas—Zapata County

S. R. C. Oil Corp.'s No. 16-A Trevino, 2,640 ft. E line, 330 ft. S line, Sur. 66.
Location.
Texas Co. No. 81 Whitehead, Cerrito-Blanco grant.
Rigging up.

Haynes—Zapata County

Clover O. & G. Co.-James P. Nash No. 5 Haynes, Haynes Subd., Villa & Comitas grants.
Drlg. 1,508 ft.
L. C. Muckelroy No. 1 Haynes, Blk. 8, Comitas & Villa grants.
Rigging up.

E. C. TEXAS WILDCATS

Week Ending December 28

Camp Hill Area—Anderson County

Burke Bros. No. 1 S. G. Moore, 385 ft. from N and 330 ft. from E line of 36.5-ac. tract, J. Rosson Sur.
Location.
Sun Oil Co. No. 1 Carl Rosson, W. T. Davis Survey, 330 ft. from W line and 660 ft. from N line of tract.
Location.
Sun Oil Co. No. 2 Carl Rosson, W. T. Davis Survey, 330 ft. from E line and 466 ft. from N line of tract.
Location.

Long Lake Area—Anderson County

Tide Water-Seaboard No. 4 Shaw & Cora, Daniel Parker Sur., 993 ft. W of No. 3 Location.
Tide Water Oil Co. et al's No. 3 Shaw & Cora, 933 ft. W of No. 1, D. Parker Sur. Cored 5,315-30 ft.; recovered 1 ft. shale, 6½ ft. black shale, 6-in. ash, 2 ft. sand with light stain oil; 5,330-40 ft. 9½ ft. sand; 5,340-45 ft. 4½ ft. sand, stain oil; 7-in. 5,341 ft.; W.O.C.; T.D. 5,345 ft.; completed.
Standard Oil Co. of Kansas' No. 1 Robinson & Hombs, 2,300 ft. from W and midway of N and S lines of lease, J. Adams Survey.
T.D. 5,347 ft. hard sand; top sand 5,345-47 ft.; 7-inch 5,338 ft.

Angelina County

Lee-Tex Oil Co. No. 2 Southern Pine Lumber Co. (Guissler), 800 ft. N of No. 1 Guissler, 600 ft. from W line of B. J. Thompson Sur.
Drlg. shale 1,000 ft.
Morris et al's No. 1 Pruyear, cen. 165-ac. tract, Thos. Hank Sur., 7 miles E of Huntington.
Drlg. 500 ft.
Pioneer Exploration Co. No. 2 W. D. Ivey, S. Scarborough Sur., 300 ft. N of No. 1 N. Huntington.
Change operator to LaRue; began Dec. 13; 10-in. 20 ft.; drlg. 1,250 ft.
Schafer Co. No. 1 Phelps, 400 ft. from S and 150 ft. from W line of 320-ac. tract of J. J. Anselmo Sur., 1 mile NE of Diboll.
Elev. 239 ft.; T.D. 2,000 ft.; rep. boiler.

Bowie County

Tex-Ark. Oil Co.'s No. 1 Hamilton Estate, 600 ft E and 350 ft. N lines, J. Milan Sur., 4 miles S of Red River.
S.D. 1,121 ft.
Woodley & Bentley's No. 1 Lumpkin, 330 ft. out of NE cor. of 345-ac. tract, J. McDermot Sur., 1 mile SW of Dalby Springs.
S.D. 120 ft.

Cherokee County

L. O. McMillan et al No. 1 S. W. Lang, Robt. Linnard Survey, 414 ft. from S line and 263 ft. from W line, of 30.96-ac. tract, 1½ miles SE T. J. Wood No. 1, New Birmingham Dev. Co. discovery well.
Setting surface csg.
Rowe-Hynes et al No. 1 H. L. Walker, 330 ft. from N and E of 51-ac. tract, A. Gibson Sur., 1½ miles NW of Mt. Selman.
Top Pecan gap, 3,910 ft.; drlg. 4,740 ft., shale; completed.

Collin County

Port Bolivar O. & R. Co.'s No. 1-A Dunning, 24 ft. W of No. 1, Wm. Creager Sur., 2 miles SE of Van Alystin.
Elev. 722 ft.; S.D. 3,865 ft.
Port Bolivar O. & R. Co.'s No. 1 J. Shirley, 330 ft. N and W of 310-ac. tract, J. Sorrell Sur., 4 miles SE of Anna.
Elev. 684 ft.; S.D. 1,963 ft.; skidded 60 ft. north.

Ellis County

Beasley O. & G. Co.'s Inc.'s No. 1 E. Roller, 1,000 ft. from NW and 1,500 ft. from SW line of Sur.
S.D. 160 ft.

Falls County

G. W. Langley No. 1 A. Springfield, P. Herrington Survey, 330 ft. from N line, and 330 ft. from W line of 60-ac. tract. NE Bremond.
Rig up.

Fannin County

Paul Garrett No. 1 G. D. Galloway, 300 ft. from S line and 195 ft. from W line of tract and Wm. M. Rice Sur., 1½ miles S of Leonard.
S.D. 15 ft.
Warner Moore et al's No. 2 Hancock Est., 1,300 ft. N and 500 ft. E of L. M. Baldock Sur., 1 mile E of Trenton.
Location.
Warner Moore et al's No. 1 Hancock, 400 ft. from W and 150 ft. N lines, Sec. 16, L. M. Baldock Sur., ½ mile S of Trenton.
Top sand 645 ft.; S.D. 689 ft.
R. Franklin Smith-Allen's No. 1 Argo, center of 16½-ac. tract in J. G. Swisher Sur.
T.D. 1,628 ft., sandy shale; S.D.

Grayson County

Olson Drlg. Co.'s No. 1 Southwestern Life Ins. Co., center of 160-ac. tract and J. C. Jamison Sur., 6 miles NW of Denison.
Elev. 767 ft.; gas sand 4,441-63 ft.; ran Schlumberger; showed very little porosity; drlg. lime and shale 4,522 ft.
Port Bolivar O. & R. Co.'s No. 1 C. Taylor, 330 ft. S and W of 1,542-ac. tract, Fitzhugh Sur., 2¼ miles SW of Gunter.
Drlg. shale and lime 2,930 ft.

Henderson County

C. & G. Oil Co.'s No. 1 Sterrett, 850 ft. from S and 200 ft. from W of Isham Marshall Sur.
Drlg. sandy shale 1,368 ft.
Sparks et al No. 1 P. M. Perry, 1,000 ft. from E and N of most northerly S line of 167.8-ac. tract in A. York Sur., 500 ft. W of H. B. Ashburn dry hole, 5 miles S of Brownsboro.
Location.
H. M. Wilson's No. 1 fee, 970 varas S of NE cor. of 943-ac. tract, 5 miles N of Malakoff.
T.D. 1,900 ft.; washing to bottom.

Hill County

Roger Lacey et al's No. 1 J. H. Atchison

Est., 330 ft. S and E of E. Carroll Sur., 5 miles W of Hillsboro.
S.D. 2,210 ft.

Kaufman County

Murry & Emerson's No. 1 G. W. Martin 1,660 ft. from W and 20 ft. from N of 140-ac. tract, from W. L. C. Butler Sur., 2 miles NE of Kemp.
Top Austin 1,940-74 ft.; S.D. 2,402 ft.; sidetracking tools.

Lamar County

Bruce Bros. No. 1 Chas. Price, 300 ft. from S of most southerly SW cor. and 1,000 ft. from W line of Wm. Nelson Sur., 10 miles NE of Paris, 1 mile W of Trout.
S.D. 356 ft.

L. W. Dennis' No. 1 W. C. Clark, 800 ft. from E and 1,800 ft. from N line of G. H. Hall Sur., 3 miles NE of Reno.
Derrick.

L. W. Dennis, trustee's No. 1 Mrs. E. Lawrence, 300 ft. from N and 1,160 ft. from W of T. B. Roundtree Sur., 3 miles NE of Blossom.
Derrick.

Geo. Greer et al's No. 1 Calvin Marshall, 821 ft. from S and 2,292 ft. from E line of survey, 7 miles NE of Blossom in M.E.P.R.R. Sur.
Location.

Texas-Gulf Pet. Co.'s No. 1 A. L. Darnell, 1,490 varas from S and 1,980 varas from W line of H. L. Williams Sur., 4 miles NE of Paris.
S.D. 2,620 ft.

North Texas Synd., Eric T. Bradley, tr.'s No. 1 Wright, Alfred Moore Sur., 1,600 ft. S and 4,300 ft. from E line of Sur.
T.D. 2,702 ft.; S.D.

Limestone County

D. Crawford No. 2 Mary Ward, 400 ft. NE of No. 1, Pedro Varela Sur.
Began Dec. 15; 10-in. 120 ft.; drlg. 1,-200 ft.

D. Crawford's No. 1 Mary Ward, 150 ft. out of NE cor. 25-ac. tract, P. Varella Sur.
T.D. 3,001 ft.; pumping, no gauge; estimated 75 bbls. a day.

Money Oil Co. No. 1 Rosson Est., 150 ft. from NE and SE lines of Blk. 4, Pedro Varela Sur., in Nigger Creek field.
Location.

McLennan County

T. Cunningham's No. 1 M. G. McKee, 940 ft. from S and 2,640 ft. W of 640-ac tract, M. Snell Sur., near Bruceville.
Derrick.

Riley & Barrow's No. 1 Hortsman, V. C. Walters Sur., 500 ft. from most northerly N line, 500 ft. from most westerly E. line, 500-ac. tract, 1½ miles S McGregor.
S.D. 475 ft.

Nacogdoches County

Rosser Bros. & Jackson's No. 1 Mattby 330 ft. out of NE cor. 60-ac. tract, Pedro J. Esparza Sur., 5 miles S of Nacogdoches.
S.D. 565 ft.

Navarro County

McCullough et al's No. 1 C. Berry, 330 ft. from SE cor. of 35-ac. tract, 1 mile W of Dawson, William Moss Sur.
S.D. 1,500 ft.

Peyton Bros. No. 1 J. F. Rushing, 150 ft. from N and W line of 12.5-ac. tract in H. Ford Sur., 2 miles W of Currie.
Location.

E. M. Thomason No. 1 Estes Bros., 150 ft. from NW line and 750 ft. from SW line, Blk. 11, 1 mile E of Rome.
Drlg. 800 ft.

E. M. Thomason's No. 1 T. P. Shivers, 1,500 ft. from W. and 600 ft. N. of 69-ac. tract, W. R. Bowen Sur., 2 miles S. of Corsicana
T.D. 2,187 ft.; S.D.

Runs County

Allen & McClung's No. 1 Giles, T. Cunningham Sur., Abst. 143, 330 ft. from W line and 200 ft. from N line of 105-ac. Giles tract, 5 mi. SW of Emory.
Derrick.

Allen & McClung's No. 1 Ida Bullard N. Brantely Sur., 1,300 ft. from W line and 200 ft. from N line of 35-ac. tract 1 mi. SW of Emory.
Began Dec. 15; 13⅜-in. 117 ft.; W.O.C.

Allen & McClung & Collard's No. 1 S. A. Cain, 1,350 ft. N and 1,550 ft. W line of J. Harges Sur., 1 mile NW of Emory.
Location.

Red River County

Abercrombie & Harrison's No. 1 Southern Pine Lumber Co., 1,148 ft. from S and 1,356 ft. from E, Joshia Davidson Sur., 13 miles NW of Clarksville.
Location.

Joe Dinger et al's No. 2 Morris, John Guest Sur., approx. 175 ft. NW of No. 1 Morris, 1 mile S Detroit.
T.D. 525 ft.; S.D.

R. H. Chew et al's No. 1 J. F. Brooks, 800 ft. N and 600 ft. W line of 320-ac. tract, B. Gooch Sur., ½ mile S of Bagswell.
Derrick.

Joiner's No. 1 D. Rust, C. C. Wilborn Sur., 334 ft. N and 254 ft. W of most southerly SE cor. of Sur., just south of Avery.
Derrick.

Rockwall County

Dodd et al's No. 1 M. F. Lofland, 2,250 ft. from N and 2,250 ft. from E line of 392-ac. tract, W. H. Beird Sur., 3½ miles SE of Rockwall.
S.D. 192 ft.

Rusk County

McCallum et al No. 1 E. C. Gary, 600 ft. from E and 340 ft. from N of 265-ac. tract, John Piburn Sur., 5 miles S of Henderson.
Derrick; 4,100-ft. test.

J. W. Shipman et al's No. 1 Citizens Natl. Bank, NE cor. of 125-ac. tract, J. J. D'Barbo Sur., 4 miles NE of Henderson.
T.D. 3,000 ft.; S.D.

Smith County

Frank D. Staples No. 1 Luther Hale, T. C. William Survey, 1,460 ft. from E line and 192 ft. from S line of tract, 3½ mi. NW Arp.
T.D. 50 ft.; S.D.

Titus County

Howze, Thompson & Peveto No. 1, C. M. Carr, North M. V. Delgado Survey, 2,060 ft. from easterly E line and 1,838 ft. from northerly N line of Sur., 1½ miles E of Talco.
Pits.

S. Rotondi's No. 1 Lillianstun, 1,200 ft. E from NW cor. of J. Bodt Sur. and 330 ft. N. but in W. H. Crawford Sur., 5 miles NE of Talco.
Elev. 301 ft.; derrick.

Van Zandt County

E. C. Del Cambre et al No. 2 A. Crim, 155 ft. from N and E lines, Nacogdoches Co. School lands.
Elev. 490 ft.; rigged up.

J. H. Gilliam et al's No. 1 E. S. Martin, 185 ft. most southerly SE line, and 208 ft. from most easterly SW line of tract. James Hamilton Sur., 3 miles NE of Wills Point.
Location.

Wood County

Gulf Prod. Co. No. 1 C. D. McCollum, 330 ft. out of NE cor. of 39.6-ac. tract, Jos. Simpkins, ½ mile S of Alba.
Location.

NORTH CENTRAL TEXAS WILDCATS

Week Ending December 28

Archer County

Darsey and Continental No. 1 Jones, 150 ft. from N and W lines of SW¼ of sec. 1840, T.E.&L. Sur.
S.D. 953 ft. for 6-in. csg.

Deep Oil Dev. Co. No. 9 L. F. Wilson, Lease No. 4-A, 660 ft. N of No. 5, Blk. 77, A.T.N.C.L. Sur.
Drlg. 1,650 ft.

Humble O. & R. Co. No. 1 Wm. Coleman 1,482 ft. from N and 2,897 ft. from W of SE cor. of Blk. 74, A.T.N.C.L. Sur.
S.D. 2,300 ft.

Hunter & Kemp No. 1 L. F. Wilson, 330 ft. from S and W lines of Blk. 3, sec. 75, A.T.N.C.L. Sur.
Drlg. 1,946 ft.

H. M. Kelleher et al No. 1 Abercrombie & Taylor, 150 ft. from N and W lines of S½ of NW¼ of sec. 1, S.P.R.R. Sur. A-415.
Moving in.

J. B. Shira No. 1 D. L. Wolf, 150 ft. from S and E lines of Lot 56, Blk. 4, Clark & Plub Sur.
Location.

Baylor County

Evans & Collins No. 1 G. Longley, 185 ft. from N and 1,930 ft. from E line of N. Dennis Sur.
S.D. 1,650 ft. for 5-in. csg.

Hardgrave & McCulloch No. 1 Louis Hrncirik, 150 ft. from S and 1,900 ft. from E lines of sec. 5, B.B.B.&C. Sur. A-70.
Location.

T. F. Hunter No. 1 Fayette County School land, 3,300 ft. from S and 1,300 ft. from W lines of Fayette County School Land Sur.
Drlg. 601 ft.

W. P. Morris et al No. 1 C. E. Holman, 150 ft. from N and E lines of W½ of SE¼ of sec. 110, T.&N.O. Sur. A-750.
Location.

W. P. Morris et al No. 1 C. T. Porter, 1,170 ft. from N and 150 ft. from E. Edward Brown Sur.
Fishing at 1,633 ft.; sand with show oil 1,625-33 ft.

W. B. Omohundro No. 1 Portwood, 150 ft. from S and 1,950 ft. from E lines of center SE cor. of B. McNelly Sur. A-274.
S.D. 1,515 ft.

Cooke County

T. P. Frost No. 1 Dangelmayer, 450 ft. from N and 150 ft. from W lines of SE¼ of Blk. 20, G. Frey Sur. A-516.
Drlg. 578 ft.

Hardin Oil Co. No. 1 J. G. Bonner, 1,350 ft. from W and 150 ft. from N, J. Lindheimer Sur.
S.D. 260 ft.

J. F. Hart No. 1 Gwyn, 150 ft. from N and 1,320 ft. from W lines of Marshall University Sur. A-619.
T.D. 1,120 ft.; S.D.; saturated lime 1,-039-41 ft.

Jacob-Bell Oil Co. No. 1 B. Dudenhofer, 1,340 ft. from S and 330 ft. from W lines of Wm. A. Pledger Sur.
Drlg. 1,527 ft.

Lanier et al No. 1 Thetford, 1,500 ft. W and 473 ft. N of SE cor. of farm, S.P.R.R. Sur. A-987.
Drlg. 200 ft.

J. N. Martin et al No. 1 Mrs. J. C. Talbot, 1,500 ft. from S and 900 ft. from E line, Jacob Lawson Sur., 2 miles SE of Gainesville.
Top sand 1,605 ft.; T.D. 1,615 ft.; pumped 30 bbls. in 12 hrs.

Mills & Carey No. 1 A. M. Bezner, 150 ft. from N and W lines of J. B. Trenary Sur.
Spudded and S.D.

Regal et al No. 1 Clem Hermes, 1,375 ft. from N and 200 ft. from E lines of A. W. Van Slyke Sur.
T.D. 1,536 ft.; shale; U.R. 6-in. csg.

J. M. Russell et al No. 1 B. B. Bawley, 1,450 ft. from S and 150 ft. from W lines of Blk. 24, John Barnett Sur.
Drlg. 100 ft.

Sunray Oil Co. et al No. 1 A. C. McCall, 500 ft. from S and 550 ft. from W lines of W. H. White Sur., NE of Gainesville in bend of river.
Drlg. 3,062 ft.; shale.

Woodbine Oil Co. No. 1 Potter & Potter, 150 ft. from N and E of SE cor. of G. Morris Sur., but in J. Gorham Sur.
S.D. 200 ft.

Denton County

Burns Oil Co. No. 1 J. T. Harmon, 1,040 ft. from N and 370 ft. from W lines of lease, J. M. Moses Sur.
T.D. 1,760 ft.; fishing drill pipe.

Oil Finance Corp. No. 1 J. S. Gambill, 400 ft. from S and 550 ft. from W lines of T. Burress Sur.
Spudded and S.D. on new hole, south of Denton.

Wagener et al No. 1 C. N. Skaggs, 1,700 ft. from N and 300 ft. from E lines of W. C. Whorton Sur.
S.D. 1,860 ft.

Jack County

Crenshaw et al No. 1 S. J. Beasley, 330 ft. from S and E lines of N½ of Beasley lands in George Hardesty Sur.
Gas sand 2,954-61 ft.; spray oil in sand 2,968-72 ft.; fishing tools.

Nelson Oil Synd. No. 1 J. P. McCoy, 330 ft. S and E of most northerly NW cor. of A. S. Ensworth Sur.
Drlg. 1,100 ft.

Singer Steel & Metal Co. No. 1 J. A. Hester, 330 ft. from S and W lines of J. Ash Sur.
Drlg. 2,540 ft.

Montague County

Boardman Bros. No. 1 L. Keck, 6,300 ft. from S and 2,600 ft. from W of NE cor. of Wm. Donoho Sur.
S.D. 897 ft.

J. F. Hart No. 1 W. M. Talley, 1,000 ft. from SW and 200 ft. from SE, J. Perrin Sur.
Drlg. 700 ft.

Jim Seeds et al No. 1 Coombs, 150 ft. from N and E lines of W 80 acres of 160-ac. farm, sec. 58, M.E.P.&P. Sur.
R.U. and S.D.

F. L. Valch No. 1 Adams, 150 ft. from N and W lines of 80-ac. farm, R. H. Grimes Sur. A-288.
S.D. 1,754 ft.

W. C. Wells et al No. 1 Aldrich, 800 ft. from SE and 1,200 ft. from NE lines of V. B. Matthews Sur. A-557.
S.D. 270 ft.

M. C. Wells No. 1 Collier, 750 ft. from SW and 1,120 ft. from SE line of M. Hunt Sur., sec. 14.
S.D. 300 ft.

Westqumo Co. No. 1 J. M. Willett, 480 ft. from S and 480 ft. from E lines of Blk. 3, Harriet Brown Sur.
S.D. 813 ft.

Wichita County

Jack Faraboe No. 1 L. F. Ramming, 150 ft. from S and W lines of sec. 3, B.S. &F. Sur.
Drlg. 1,725 ft.

Wilbarger County

Franklin Oil Co. No. 1 D. G. Feller et al, 2,850 ft. from N and 1,550 ft. from W lines, sec. 108, Blk. 14, H.&T.C. Sur.
T.D. 1,520 ft.; C.O.

Smith No. 1 S. A. Dill et al, 150 ft. from N and E lines, sec. 82, Blk. 14, H.&T.C. Sur.
Sand 1,656-59 ft.; lowering 6-in. csg.

Wise County

W. B. Hamilton No. 1 S. L. McNay, 1,-320 ft. from NE and 950 ft. from SE lines of N. Ledbetter Sur.
S.D. 1,277 ft. for 5-in. csg.

Jarvis & Nix et al No. 1 Williams, 1,100 ft. from S and 1,400 ft. from E lines of Blk. 4, F.C.S.L. Sur.
T.D. 975 ft.; moving in equipment.

Young County

Banner Oil Co. No. 1 S. R. Jeffery, center of S½ of sec. 55, T.E.&L. Sur.
Location.

Banner Oil Co. No. 1 S. R. Jeffery, center of S 40 ac. of SE¼ of sec. 57, T.E.&L. Sur.
Drlg. 800 ft.

Rathke Oil Co. No. 1 A. C. Casey, 1,620 ft. from S and W lines of sec. 1,494, T.E.&L. Sur.
R.U. spudder.

Carl Pet. Co. No. 1 Goss, 150 ft. from S and W lines of sec. 1592, T.E.&L. Sur.
Spudded and S.D.

Christie Bros. No. 1 Primitive Baptist Church, 3,394 ft. SE and 500 ft. from NE lines of S. L. Hill Sur. A-136.
Derrick.

H. J. Cox No. 1 E. A. Corbett, 650 ft. from N and 750 ft. from E lines of Ruthy Campbell Sur.
T.D. 4,343 ft.; C.O.

C. D. Neff et al No. 1 W. A. Dennis, 1,-520 ft. from N and 1,782 ft. from E. C. F. Bass Sur.
S.D. 1,480 ft.

Pitzer & West No. 1 McCluskey, 660 ft. from N and W lines of 74-ac. tract, sec. 1104, T.E.&L. Sur. A-827.
Rig.

Pitzer & West No. 1 J. N. Booser, 1,090 ft. from S and 1,800 ft. from E lines of sec. 1,104, T.E.&L. Sur., 150 ft. south of river.
Lime 3,600-05 ft.; hole full oil; acidized with 3,000 gals. acid; flowed 35 bbls. per hr.; cased off upper pay; lower pay 3,990-94 ft.; est. 100 bbls. per day; T.D. 4,060 ft.; sand; hole full salt wtr.; S.D. for orders.

Roberts Oil Corp. No. 1 McCarroll, 330 ft. from N and E lines of W. Fullerton Sur. Oil pay 3,685-89 ft.; flowed by heads every 2 hrs.; killed well and set 6-in. csg. at 3,555 ft.; T.D. 3,692 ft.

Humble O. & R. Co. No. 1 Mrs. Fannie Knox, 1,439 ft. from N and 3,056 ft. from W lines, Washington Co. R.R. Sur.
Drlg. 4,605 ft.; lime.

WEST TEXAS WILDCATS

Week Ending December 28

Andrews County

Tipplehorn No. 2 King, 330 ft. from N and 2,310 ft. from E, sec. 11, Blk. A-46. R.U. cable tools.

Brewster County

F. C. Dodson's No. 1 Texas American Syndicate, 660 ft. from N and E, Sec. 66, Blk. 40, G.H.&S.A. Sur.
T.D. 1,715 ft.; R.U. on new location.

Joiner et al's No. 1 McIntyre, 353 ft. from S, 2,390 ft. from E of Sec. 21, Blk. 353, W. M. Mitchell Sur.
S.D. 2,150 ft.

G. H. Storey's No. 1 Wilson, 1,980 ft. from N and E lines of Sec. 3, Blk. 212, T.&St.L. Sur.
Elev. 3,609 ft.; S.D. 1,875 ft.

Concho County

Maverick Oil Co.'s No. 1 Jim Rice, 330 ft. from S and W lines of NW¼ of Sec. 18, S.N. Ry. Sur.
S.D. 873 ft.

John W. Westbrook's No. 1 Ledbetter, 1,950 ft. from N and 1,300 ft. from E lines of Sec. 2, Sur. No. 1,673.
Drlg. 1,426 ft.

Crane County

Big Basin Pet. Corp.'s No. 1 Cowdin, 330 ft. from N and 1,650 ft. from E, sec. 77, Blk. X.
S.D. 1,350 ft.

Flaherty No. 1 E. Hughes, 2,964 ft. from S and 300 ft. from E, sec. 4, G.C.&S.F. Sur.
Spudded.

Gulf Prod. Co.'s No. 1 Waddell, C NW NW Sec. 4, Blk. B-27, P.S.L. Sur.
Top Simpson 6,060 ft.; T.D. 6,450 ft.; P.B. to 6,317 ft.; bailed 30 bbls. oil; C.O.; oil tested 33.5 gravity.

Humble O. & R. Co. No. 1 J. B. Tubb, 980 ft. from N and 900 ft. from W lines of sec. 11, Blk. B-27, P.S.L. Sur.
Rigged up rotary.

Moore Bros. No. 1 Barnsley, 1,320 ft. from S and W, Sec. 43, Blk. 32, P.S.L. Sur.
Location.

Sinclair Prairie Oil Co. et al No. 1 Tubbs, 330 ft. from S and E, sec. 3, Blk. B-27, community test.
Spudded.

Wahlenmaier Pet. Corp.'s No. 2 Kloh, 330 ft. from S and W, Sec. 33, Blk. 44, Twp. 3s, T.&P. Sur.
Fishing 3,300 ft.

Crockett County

J. G. Harris' No. 1 Parker, 438 ft. from S and 7,200 ft. from E, sec. 83, Blk. 1, I.&G.N. Sur.
S.D. 1,430 ft.

Leslie-Hiller et al's No. 1 Todd, 1,200 ft. N and 330 ft. E. Sec. 36, Blk. WX, G.C.&S.F. Sur.
S.D. 621 ft.

John I. Moore's No. 1 A. C. Hoover, 330 ft. from S and E lines of Sec. 4, Blk. FF B.&B. Sur.
Spudded and shut down.

Culberson County

Anderson-Prichard Oil Corp., Magnolia Pet. Co. et al's No. 1 Borders, 1,355 ft. N and 2,305 ft. from W, Sec. 34, Blk. 69, P.S.L. Sur.
Drlg. 2,428 ft.

Dawson County

Adams & Turner's No. 1 John Robinson, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 46, Blk. M. E.L.R.R. Sur.
S.D. 4,360 ft.; U.R. 6-in. at 3,600 ft.

Ector County

W. P. Dunning, Jr., et al's No. 1 Mrs. Clarence Scharbauer, 440 ft. from S and 2,200 ft. from W lines of Sec. 33, Blk. 44, Twp. 1n, T.&P. Sur.
S.D. 3,785 ft.

Gulf Prod. Co.'s No. 2 Goldsmith, 2,300 ft. from N and 440 ft. from E lines of Sec. 15, Blk. 44, Twp. 1s, T.&P. Sur.
T.D. 3,967 ft.; fishing.

Phillips Pet. Co. No. 3 Cowden, 440 ft. from N and 1,320 ft. from W, sec. 36, blk. 44, Twp. 1s, T.&P. Sur.
Drlg. 2,690 ft.

Sun and Atlantic's No. 1 O. B. Holt, 1,980 ft. from S and 660 ft. from W lines of Sec. 6, Blk. 43, Twp 1n, T.&P Sur.
Shot with 110 qts. at 4,445-80 ft.; swabbing.

York & Harper's No. 1 H. C. Foster, 660 ft. S and E Sec. 13-43-2a. T.&P. Sur. T.D. 4,342 ft.; P.B. to 4,310 ft.; shot with 370 qts. at 4,080-4,300 ft.; flowed 264 bbls. first 24 hrs.

Edwards County

Paul Teas No. 1 J. B. Stewart, 760 ft. from N and 330 ft. from W of SE¼ sec. 2, Blk. DA, G.C.&S.F. Sur.
Spudder.

O. L. Williams' No. 1 Holman, 300 ft. from N and E, Sec. 145, C.C.S.D.&R.G.N.G. Sur.
S.D. 1,340 ft.

Fisher County

L. A. Daniels et al's No. 1 J. J. Nickless, 1,700 ft. S and 2,970 ft. W of SW cor. of Sec. 60, H.T.&B. Sur., but in Sub. 1, G. W. Lawrence Sur., 6 miles E of Roby.
S.D. 685 ft.

Forest Dev. Co. No. 1 A. M. Dry, 640 ft. from S and 2,000 ft. from E. sec. 105, Blk. 2, H.&T.C. Sur.
Cellar.

Tide Water's No. 2 Howard, 1,620 ft. from N and 1,550 ft. from E lines of Sec. 180, Blk. 2, H.&T.C. Sur.
S.D. 2,647 ft.

Tide Water Oil Co.'s No. 1 Newman, 1,-758 ft. from N and 1,054 ft. from W of NE¼ Sec. 2¼, John Redman Sur., 4 miles SE of Roby.
Top Noodle Creek lime 2,280 ft.; T.D. 2,811 ft.; U.R. csg.

Gaines County

Wahlenmaier Pet. Co. et al's No. 1 E. H. Jones, 660 ft. S and W, Sec. 414, Blk. G, C.C.S.D.&R.G.N.G. Sur., 22 miles NW of Seminole.
Show of gas 3,320 ft.; set csg.; drlg. ahead.

W. T. Walsh et al's No. 1 Averitt, 330 ft. N and E lines, Sec. 238, Blk. G, W.T.R.R. Sur.
Elev. 3,322 ft.; gas show 2,785 ft.; increase 2,795 ft.; increase gas 3,132 ft.; lost tools again; est. 15,000,000 ft. of gas; decreased to 4,000,000 ft.; T.D. 3,-132 ft.; fishing.

Garza County

Grisham & Hunter No. 1 Sullivan, 330 ft. from S and 2,310 ft. from E, sec. 3, K. Aycock Sur.
Drlg. 2,279 ft.

M. L. Richards No. 1 Post Estate, 1,570 ft. from N and 200 ft. from E, sec. 6, Blk. 5, K. Aycock Sur.
Machine.

Glasscock County

John I. Moore et al's No. 1 J. S. McDowell, 1,980 ft. from N line and 660 ft. from E line of Sec. 22, Blk. 34, Twp. 2a, T.&P. Sur.
Topped lime 9,471 ft.; show oil and gas 9,484-9,520 ft.; increase oil 9,594-9,600 ft. and 9,633-55 ft.; T.D. 10,115 ft.; made 150-bbl. flow when opened on test; to deepen.

World Oil Co. No. 4-C McDowell, 330 ft. from N and E, sec. 21, Blk. 34, Twp. 2a, T.&P. Sur.
Drlg. 150 ft.

Howard County

Superior Oil Co. No. 1 Logan.
Drlg. 2,512 ft.

Hudspeth County

Hayman-Krupp Oil & Land Co. No. 1 Saxton, 1,464 ft. from S and 291 ft. from E, sec. 34, Blk. 74, Twp. 6, T.&P. Sur.
Spudded and S.D.

Jeff Davis County

C. M. Joiner's No. 1 Jones & Coffield, 770 ft. from N and 1,322 ft. from E, Sec. 8, Blk. 3, H.&T.C. Sur.
T.D. 2,210 ft.; reported cored 8 ft. of saturated sand 2,202-10 ft.

Jones County

J. N. DeMont No. 1 L. G. Roberts, 150 ft. from N and 1,287 ft. from E lines, John Casner Sur.
Location.

Hughes No. 1 Bumpass, 220 ft. from N and 1,320 ft. from W lines, T. Maltby Sur. No. 252.
Drlg. 50 ft.

Jamison et al No. 1 Triplett, 3,284 ft. from N and 300 ft. from E, Jasper Gocher Sur. No. 199.
T.D. 1,540 ft.; U.R. csg.

Bob Elmore No. 1 Coton, 675 ft. from N and 2,050 ft. from W lines of SW¼, sec. 10, D.D.&A. lands, 3 miles W of Avoca.
Spudded.

Farris & Pikes No. 3 Jennings, 230 ft. from S and W of NE of SE¼, Sec. 207, B.B.&C. Sur.
Machine rigged up.

Farris & Pikes' No. 1-A Jennings, 1,980 ft. from S and 150 ft. from W, Sec. 1, L.&G.N. Sur.
Machine.

Tom D. Medders et al's No. 1 J. E. Manley, 1,170 ft. from S and E lines of Sec. 35, Blk. 14, T.&P. Sur.
S.D. 1,700 ft.

Mentray Oil Co. No. 1 Frank Olney, 2,883 ft. from N and W lines of 140-ac. tract in sec. 4, G. Martinez Sur. No. 195.
T.D. 1,953 ft.; U.R. csg.

Peckham & Danciger's No. 1 City of Stamford, 1,316 ft. from N and 174 ft. from E, sec. 264, B.B.B.&C. Sur.
Drlg. 1,933 ft.; show oil 1,816 ft.

Reliance Oil Co.'s No. 1 Crow, 660 ft. from S and 1,320 ft. from E lines of Sec. 9, D.&D.A. Sur.
Drlg. 2,025 ft.; S.O. 1,968 ft.

Shaheen et al's No. 1 J. J. Steele, 660 ft. from S and 1,980 ft. from E, Sec. 11, Blk. 15, T.&P. Sur.
S.D. 525 ft.

Shaheen et al No. 1 T. B. McCoy, 660 ft. from N and 1,320 ft. from E of most easterly SE cor. sec. 1, Blk. 16, T.&P. Sur.
Rigged up.

Kimble County

Forrest Dev. Co.'s No. 1 Stopp, 660 ft. from N and 1,866 ft. from W, Sec. 682, Blk. N, G.H.&S.A. Sur., 18 miles SE of Junction.
Drlg. 3,100 ft.

Loving County

D. C. Evans' No. 1 W. D. Johnson, 2,310 ft. from N and 1,650 ft. from W, Sec. 12, Blk. 57, Twp. 1, T.&P. Sur.
Drlg. 2,752 ft.

Martin County

Wright & Scott's No. 1 Flannigan, 330 ft. N and E, Sec. 22, Blk. 37, Twp. 1s, T.&P. Sur.
S.D. 100 ft.

McCulloch County

Mark Hill No. 1 McCall & Curtis, 160 ft. from S and E lines, sec. 692, 12½ miles N of Brady.
T.D. 760 ft.

Mark Hill's No. 1 Moore Bros., 934 ft. from S and 150 ft. from E lines of Sec. 3, State School Land Sur.
T.D. 690 ft.; P.B. to 665 ft.

Menard County

Wilcox O. & G. Co. No. 1 Merchenson, 330 ft. from S and W, Sec. 158, E.L.R.R. Sur., Abst. 1,540, 8 miles S of Menard.
Rig.

Mitchell County

Lockhart et al's No. 1 W. C. Berry, 330 ft. from N and 2,310 ft. from E, Sec. 36, Blk. 97, H.&T.C. Sur.
S.D. 1,802 ft.

Southern Union Prod. Co.'s No. 1 Castin, 330 ft. from S and E, Sec. 11, Blk. 28, 1s, T.&P. Sur.
Spudded and S.D.

Nolan County

Harris et al's No. 1 Georgia Institute of Technology, 330 ft. from S and 1,320 ft. from W, Sec. 89, Blk. 24, T.&P. Sur.
S.D. 290 ft.

Pecos County

Ajax Drlg. Co.'s No. 1 University, 2,310 ft. from S and W. Sec. 13, Blk. 18.
T.D. 1,765 ft.; acidized; 1 bbl. oil and 1 bbl. wtr. per day.

Cardinal Oil Co. No. 1-43 White & Baker, 330 ft. from N and E, sec. 43, Blk. Z, T.C.R.R. Sur.
Top sand 705 ft.; T.D. 804 ft.; U.R. csg.

Dobbs Oil Co. No. 1 Rooney, 990 ft. from E and 800 ft. from N, sec. 13, Blk. 125, T.&St.L. Sur.
Cellar.

C. R. Richards' No. 4 Courtney, 930 ft. from N and W, Sec. 76, Blk. OW, 360 ft. S of No. 2.
Elev. 2,967 ft.; may skid.

Tex-Mex Pet. Co.'s No. 1 Phillips-Brandenburg, 330 ft. from S and E of N half Sec. 47 Blk. 8, H.&G.N. Sur.
S.D. 1,685 ft.
Tex Mex Pet. Co. No. 1 Lowry, 330 ft. from S and E of N½ sec. 50, Blk. 8, H.&G.N. Sur.
R.U. machine.

Trans-Pecos Oil Co.'s No. 1 F. W. Popham, 1,650 ft. from S and E, Sec. 235, Blk. 11, G.H.&S.A. Sur.
To spud.

Trans-Tex. Oil Co.'s No. 1 Caldwell, 330 ft. from E line and 330 ft. from S line of Sec. 27, Blk. 48, Twp. 9, T.&P. Sur.
S.O. 2,995-4,000 ft.; 1 bailer oil in 48 hrs.; top Delaware lime 5,148 ft.; S.D. 5,156 ft.

Reagan County

Dobbs Oil Co.'s No. 2 Friend, 660 ft. from W and 1,375 ft. from S, Sec. 3, Wm. Allen Sur.
Location.

Skelly Oil Co.'s No. 6 Grayson, 1,320 ft. from N and 440 ft. from W, Sec. 33, Blk. 8, University Lands.
Drlg. 2,043 ft.

Reeves County

Dunigan's No. 1 Davis, 330 ft. from N and W, Sec. 7, Blk. 58, P.S.L. Sur.
Location.

Grisham-Hunter Corp.'s No. 1 T. P. Land Trust, 1,320 ft. from S and W lines, Sec. 27, Blk. 57, Twp. 2, T.&P. Sur.
S.D. 3,225 ft.; show oil 2,973-86 ft. and 3,200-10 ft., and 3,222 ft.; set csg. to 3,160 ft.

Washington Oil Co.'s No. 1 J. M. Radford Grocery Co., 2,640 ft. from S and 340 ft. from E, Sec. 29, Blk. 56, P.S.L. Sur.
Elev. 3,169 ft.; T.D. 562 ft.

Runnels County

John Caster et al's No. 1 Giesecke, 330 ft. from N and 713 ft. from E, Sub. 2, Blk. 130, J. Hughes Sur. 237.
S.D. 562 ft.

Schleicher County

John M. Cooper et al's No. 1 Bert Page, 1,320 ft. from N line, 1,470 ft. from W line of Sec. 40, Blk. L, G.H.&S.A. Sur.
T.D. 6,257 ft.; P.B. to 5,555 ft.; acidized; P.B. to 5,540 ft.; 13,500,000 ft. of gas when opened.

Cecil Rains et al No. 1 Judkins & Spencer, C SW¼ sec. 4, Blk. V-28.
S.D. 2,205 ft.; heavy rotary.

Scurry County

Coffield & Guthrie's No. 1 Wade, 990 ft. from N and 330 ft. from W, Sec. 115, Blk. 97, H.&T.C. Sur.
T.D. 2,168 ft.; P.B. to 1,900 ft.; to shoot.

Taylor County

Hightower O. & R. Co. No. 1 E. E. Sadler, 250 ft. from N and 4,400 ft. from W, in C. Cole Sur., 2 miles W of Wiley.
Drlg. 1,566 ft.

Tom Green County

Mays Oil Co.'s No. 1 I. Funk, 1,980 ft. from S and 660 ft. from W, Sec. 38, Blk 5, H.&T.C. Sur.
S.D. 1,452 ft.; to P.B. and test upper shows.

Twin Oil Co.'s No. 1 W. E. Green, 1,650 ft. from N and 1,400 ft. from W, L. P. Moore Sur. 189½.
S.D. 315 ft.

Upton County

Cordova Union No. 1 fee, 672 ft. S of I.T.I.O. No. 1 Cordova Union, sec. 3, Blk. A.B. Material.

Greencliff Oil Corp. et al No. 1 J. H. Tippett, C NE¼ sec. 58, Blk. Y, T.C. Sur.
Location.

I.T.I.O. and Foster No. 1 Cordova Union, 624 ft. W of Ray No. 1 Cordova Union, sec. 3, Blk. AB, A. E. Baxley Sur.
Material.

J. G. McKenzie's No. 1 Taylor, 1,650 ft. from S and 330 ft. from E lines of Sec. 22, Blk. B-2, G.H.&S.F. Sur.
T.D. 630 ft.

A. R. Lynch et al's No. 1 Shark, 330 ft. from N and E, Sec. 25, Blk. 3, M.K.&T. Sur., 3 mi. E and 3 mi. N of McCamey.
S.D. 2,590 ft.

Ward County

Abell Brothers' No. 1 Lancaster Estate, 294 ft. N 20 degrees and 15 minutes W of NE cor. Sec. 61, Blk. 3, H.&G.N. Sur. in Pecos County, 5½ miles down Pecos River from NW cor. of Pecos and E cor. of Reeves County.
Fishing 690 ft.

Olsen & Anderson No. 1 Yell, 330 ft. NE and SE lines of W. F. Stewart Sur., sec. 6.
S.D. 2,505 ft.

C. Cochran's No. 1 K. Greene, 990 ft. from NW and 2,980 ft. from SW, Sec. 29, Blk B-29, P.S.L. Sur.
S.D. 1,445 ft.

Dobbs Oil Co. No. 1 A. F. Bray.
S.D. 2,052 ft.

Wahlenmaier et al's No. 1 Potts, 990 ft. from SW and 330 ft. from SE, Sec. 38, Blk. B-29.
Fishing 2,210 ft.

Winkler County

Atlantic O. P. Co. No. 1 Lovett, 2,260 ft. from W and 2,200 ft. from S, Sec. 36, Blk. 26, P.S.L. Sur.
Drlg. 3,031 ft.

Crafton Oil Co.'s No. 2 Pure-Walton, 2,-200 ft. N and E, Sec. 1, Blk. 3-B. Material.

Crafton Oil Co.'s No. 1 Pure-Walton, 440 ft. E and 1,320 ft. S, Sec. 2, Blk. 3-B, P.S.L. Sur.
T.D. 3,500 ft.; shot; C.O.

Emperor Oil Co.'s No. 1 Continental-Holley, 330 ft. from S and 2,310 ft. from W, Sec. 12, Blk. B-12.
Drlg. 2,578 ft.

Gulf Prod. Co. No. 1 Hill, 440 ft. from S and 2,200 ft. from E, sec. 9, Blk. B-11, R.U. standard tools.

Gulf Prod. Co. No. 10 Keystone, 440 ft. from E and 2,200 ft. from S, Sec. 10, Blk. B-3.
Drlg. 2,526 ft.

K-D Oil Co.'s No. 1 P. Mitchell, 1,650 ft. from N and 2,310 ft. from E, Sec. 33, Blk. B-10, P.S.L. Sur.
Cable tools rigged up.

Magnolia Pet. Co. No. 1 State-Walton, 2,310 ft. from S and 990 ft. from E, sec. 7, Blk. B-3.
Drlg. 739 ft.

Magnolia Pet. Co. No. 2 Sealey, 330 ft. from S and W, Sec. 94, Blk. A.
S.D. 2,331 ft.

Mascho Oil Co.'s No. 1 Evans, 1,320 ft. from N and W, Sec. 8, Blk. 56.
S.D. 80 ft.

Mascho Oil Co.'s No. 1 Evans, 1,170 ft. from N and 1,320 ft. from W, Sec. 44, Blk. 73, P.S.L. Sur.
S.D. 217 ft.

Richardson's No. 1 B. F. Jenkins, 440 ft. from S and E, Sec. 13, Blk. 77, P.S.L.
T.D. 3,498 ft.; fishing.

Thurman et al's No. 1 Seth Campbell 18-B-3, 330 ft. from S and 1,650 ft. from W lines of Sec. 18, Blk. B-3, P.S.L. Sur.
Drlg. 2,350 ft.

Wilgo Oil Corp.'s No. 1 Campbell, 990 ft. from N and 300 ft. from E Sec. 2, Blk. 5, P.S.L. Sur., 3 miles E of Kermit.
Elev. 2,884 ft.; T.D. 4,639 ft.; P.B. 3,800 ft.; S.D.

Wilson Keys No. 1 Central State Bank of Abilene.
Loc.

Yoakum County

C. J. Davidson et al's No. 1 Bennett, 1,-320 ft. from N and E, Sec. 678, John H. Gibson Sur.
Elev. 3,557 ft.; T.D. 5,090 ft.; 4,000 ft. fluid in hole, mostly oil; set 6⅝-in. csg. at 4,651 ft.

LA.-ARK. WILDCATS

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

Bienville Parish

DeSoto O. & G. Co. No. 1 C. R. Mower, 270 ft. S, 400 ft. W, NE cor. NW SW sec. 9-16-10.
Rigging up.

Lide & Greer No. 1 Davis Bros. Lbr. Co., 660 ft. S and W, NE cor. SE sec. 12-16-5w.
Rigging up.

Bossier Parish

Ark.-La. Gas Co. No. 1-B Werner, 1,358 ft. N, 624 ft. E, SW cor. SE SE sec. 7-17-11.
Comp. 40,180,000 of gas, 4,246 ft.

Bossier O. & G. Co. No. 3 Sherrill, 330 ft. N and W, SE cor. sec. 13-19-12.
S.D. 2,180 ft.

Geo. H. Bringhurst et al No. 1 Buckley, NE SW sec. 36-21-13.
Fishing for D.S. 375 ft.

Producers O. & G. Co. No. 1 Pettitt, 330 ft. S and W, NE cor. NW sec. 17-17-11.
Coring 4,275 ft.

Producers O. & G. Co. No. 1 Edwards, 660 ft. N and W, SE cor. sec. 27-18-11.
S.D. for fuel 360 ft.

Triangle Drlg. Co. No. 3 Skannal, Unit 50, S and W of C of NE.
S.D.; rig repair, 2,714 ft.

Caddo Parish

J. Ed Bailey, tr., No. 1 Hartzo, NW cor. NE NW sec. 28-23-16.
S.D. 2,136 ft.

Bayou State Oil Co. No. 1 Brown, 150 ft. N, 300 ft. E, SW cor. NW SE sec. 22-22-15.
Drlg. 910 ft.

John D. Blalock No. 2-A Seybert, 270 ft. N and 320 ft. E of C sec. 17-20-15.
Dry and abd. 1,500 ft.

Falcon Oil Co. No. 1 Glassell, 1,615 ft. N, 994 ft. E, SW cor. sec. 26-20-15.
Set 6-in. 2,205 ft.

F. D. Hyde No. 1 Thigpen & Herold, 350 ft. S and E, C sec. 5-15-15.
S.D. 3,012 ft.

Max Brandt No. 1 Hughes, SW cor. NE NW sec. 15-20-15.
Tested 500,000 ft. gas; S.D.; W.O. 3,206 ft.

Shreveport Oil Corp. No. 7-B Muslow, 495 ft. N, 1,320 ft. E, SW cor. sec. 4-20-15.
Comp.; pumping 35 bbls.; 2,176 ft.

Shreveport Oil Corp. No. 2-G Muslow, 780 ft. S, 578 ft. W, NE cor. sec. 9-20-15.
Comp.; pumping 40 bbls.; 2,185 ft.

Shreveport Oil Corp. No. 8-B Muslow, 1,-760 ft. E, 280 ft. N, SW cor. NW sec. 4-20-15.
Rigging up.

Ty-Stan, Inc., No. 1 Jolly, 400 ft. S and E, NW cor. SW SW sec. 22-22-15.
S.D. 2,820 ft.

Caldwell Parish

Caldwell Drlg. Co. No. 2 Gore, 280 ft. S, 600 ft. W, NE cor. SE sec. 30-12-3e.
T.A. 768 ft.

Critchett & Woods No. 1 Kyles, NE cor. SW NE sec. 18-11-3e.
Coring 1,290 ft.

G. W. Zeigan et al No. 1 La.-Central Lbr. Co., 175 ft. S and E, NW cor. SW SW sec. 25-13-3e.
S.D. 1,600 ft.

Claiborne Parish

J. H. Lester No. 1 Robinson, 1,650 ft. N, 330 ft. E, SW cor. sec. 16-21-6.
Drlg. shale 1,705 ft.

E. T. Oakes No. 1 H. W. Patton Est., 660 ft. S and W, NE cor. sec. 1-20-5w.
S.D. 4,242 ft.

Ryan Oil Corp. No. 1 F. A. Gladney, 660 ft. S, 330 ft. E, NW cor. SE sec. 10-23-16, sec. 27-20-7.
Recmtd. surface csg. at 4,517 ft.

United Gas Public Service Co. No. 2 Durfett, 660 ft. N and 1,980 ft. E, SW cor. sec. 31-20-5.
Coring 4,406 ft.

Concordia Parish

Zeni Oil Co. No. 1 Young, 1,200 ft. W, 100 ft. N, SE cor. sec. 28-6n-8e.
Set 12½-in. 91 ft.; drlg. 1,004 ft.

De Soto Parish

E. B. Bird et al No. 1 J. H. Johns, 330 ft. N and W, C sec. 20-14-6.
Tested S.W. 2,622 ft., S.D.W.O.

Sam Goldman No. 1 G. R. Stell, 330 ft. S and W, NE cor. sec. 5-12-16.
Set 10-in. 320 ft.; drlg. 2,610 ft.

A. G. Halbach et al No. 1 Staton, 150 ft. N and E, SW cor. SE sec. 29-13-14.
Drlg. 1,370 ft.

Union Pet. Co. No. 1 Hill, sec. 3-10-13.
S.D. 2,400 ft.

J. L. Ryan et al No. 1 Jackson, 330 ft. N and E, SW cor. sec. 1-11-14.
Drlg. 65 ft.

Grant Parish

Alexander et al No. 1 Maxwell, sec. 9-9-1e.
Set 6-in. 1,521 ft.; T.D. 1,582 ft.

Lincoln Parish

Caldwell Land & Timber Co. No. 1 J. K. Hammons, 330 ft. S and E, NW cor. SE SW sec. 30-18-1w.
Derrick.

Morehouse Parish

Zeiger & Bacon No. 2 Crossett Lbr. Co., 2,570 ft. N, 505 ft. E, SE cor. SE SW of sec. 36, in sec. 41.
Abd.; will not drill.

Ouachita Parish

Carbon Consolidated No. 2 Interstate, 330 ft. S, 660 ft. E, NW cor. SW sec. 32-19-4e.
Comp.; 1,500,000 ft. of gas, 2,183 ft.

Interstate Nat. Gas Co. No. 39 fee, 660 ft. S and E, NW cor. NE NE.
Set 8-in. 738 ft.; drlg. 1,850 ft.

Interstate Nat. Gas Co. No. 41 fee, 809 ft. N, 274 ft. W, SE cor. SW sec. 19-19-4e.
Comp.; 1,000,000 ft. of gas, 2,500 ft.

Natchitoches Parish

Ab Jones' No. 1 Brown Lbr. Co., 400 ft. N, 330 ft. W, SE cor. Sec. 5-10-10.
S.D. 1,033 ft.

Union Petroleum Co.'s No. 1 DeBlieux, 1,395 ft. E, 150 ft. S, NW cor. Sec. 33-10-7.
Fishing for D.S. 2,850 ft.

Red River Parish

Izdla Oil Co.'s No. 1 La. Pecan Co., 2,590 ft. W and 350 ft. N of SE cor. Sec. 27-13-11.
Dry and abd. 1,005 ft.

J. S. Tuffree's No. 1 Wilkinson, 1,320 ft. S and W, NE cor. Sec. 11-12-11.
S.D. 1,395 ft.

Richland Parish

J. S. Morrisey No. 1 Jones, 1,293 ft. N, 636 ft. E, SW cor. sec. 15-18-7e.
Set 10-in. 176 ft.

Arthur Wray No. 1 Slocum, 2,436 ft. S, 560 ft. W, NE cor. sec. 10-17-6e.
Set 12-in. 136 ft.

Sabine Parish

B. S. & M. Oil Co.'s No. 1 Tatum, 330 ft. S and E, NW cor. NW SE Sec. 32-8-13.
P.B. to 1,590 ft. from 2,100 ft.

Helena O. & G. Co. No. 2-A Frost Lbr., 330 ft. N and W, SE cor. sec. 19-19-13.
Swbng. to test 1,735 ft.

Geo. L. Pace's No. 4 DeSoto Corp., 330 ft. S and W NE cor. SE SE Sec. 27-10-13.
Bailing to test 1,895 ft.

Claude H. Smith No. 1 Whitney Corp., 330 ft. S, 990 ft. W, NE cor. sec. 19-10-13.
S.D. 750 ft.

Lee Whitehurst No. 1 Latham, 660 ft. N, 440 ft. W, SE cor. SW sec. 19-9-13.
Rigging up.

Union Parish

United Carbon Co. No. 2 Stovall, 1,180 ft. S, 750 ft. E. C sec. 28-21-4e.
Set 8-in. 750 ft.; set 6-in. 2,060 ft.

Vernon Parish

Llano Del Rio Co. No. 2 Gulf Lbr. Co., 1,285 ft. S, 1,000 ft. W, NE cor. sec. 7-1n-9w.
Set 10-in. 45 ft.; drlg. 1,850 ft.

Webster Parish

J. L. Edwards No. 1 Hooper, 330 ft. S and E, NW cor. SW sec. 8-17-9.
Drlg. 250 ft.

Lyons & Myers No. 1 Leola Brantley, 330 ft. S and E, NW cor. SW SE sec. 1-21-9.
Drlg. 1,993 ft.

Ohio Oil Co. No. 1 R. L. Holloway, 660 ft. S, 760 ft. W, C Sec. 23-21-10.
Rigging up.

Winn Parish

Parsons et al's No. 1 Tremont Lbr. Co., 660 ft. S, 330 ft. E NW cor. SW Sec 10-12-2w.
S.D. 1,120 ft.

ARKANSAS

Clark County

Goris Tripanoff, tr., No. 1 W. Gibbons, sec. 27-8-18.
Drlg. 522 ft.

Columbia County

Magale & Elam No. 1 L. Garrett, 330 ft. N and W, SE cor. NE SW sec. 13-17-20.
Set 10-in. 200 ft.; drlg. 1,816 ft.

Southern States Gas Co.'s No. 1 Piney Woods Lbr. Co., 330 ft. N and E, SW cor. NE NW Sec. 10-20-22.
S.D. 1,924 ft.

Hempstead County

G. L. Glass, tr.'s No. 1 May B. O'Bier, Sec. 32-12-23.
Derrick.

F. W. Martin's No. 2 Lafferty, C NW Sec. 17-14-24.
Rigging up.

LaFayette County

Earl F. Fox' No. 2 Coleman Bros., NE NE Sec. 30-16-24.
Set 10-in. 135 ft.

Erwin & Leach No. 3 Bodcaw Lbr. Co., 330 ft. S and E, NW cor. sec. 20-16-13.
Moving in rig.

Kamon & Neely's No. 1 Cockran, NW cor SE SW Sec. 26-19-25.
S.D. 4,450 ft.

Joe Modisett's No. 1 Red River Lbr. Co., C SW SW Sec. 21-19-14.
Fishing for D.S. 5,316 ft.

Riggs Bros.' No. 1 Dubose, SE cor. SW NW Sec. 35-15-24.
Tested S.W. and S.D. 2,830 ft.

Transportation Pet. Co.'s No. 1 Cockran, 300 ft. S and W, NE cor. SE Sec. 26-19-25.
Coring 3,412 ft.

Miller County

E. J. Donohue's No. 4 Beck, 330 ft. N and W, SE cor. NE SE Sec. 33-15-26.
S.W. and abd. 2,952 ft.

M. D. K. Fitzwater's No. 1 E. H. Beck, 150 ft. N and E, SW cor. NW SW Sec. 34-15-26.
W.O.S.R. 2,919 ft.

Haynes Prod. Co.'s No. 1 Embree estate, 330 ft. N and W, SE cor. SW SW sec. 9-20-28.
Drlg. 5,300 ft.

King Oil Corp.'s No. 1 G. W. Crank, SW NE Sec. 19-16-25.
Drlg. lime 3,635 ft.

M. H. S. Oil Co.'s No. 2 Beck, Sec. 34-15-26.
W.O.S.R. 2,925 ft.

L. H. Mahon et al's No. 1 Miller Land & Timber Co., SW cor. SE Sec. 29-15-27.
S.D. 1,801 ft.

Monroe County

J. R. Lockhart et al's No. 1 Rue Abramson, SE cor. SE SE sec. 19-1s-1w.
Arranging to resume drlg. 3,333 ft.

Nevada County

Sneed & O'Mara No. 1 Floyd Munin, C SW Sec. 16-14-22.
Drlg. 1,650 ft.

Ouachita County

Benedum & Trees' No. 1 H. Brighton, C NE SW Sec. 29-14-19.
T.A. 5,197 ft.

Grigsby & Aarner No. 1 Burris, 330 ft. N and E, SW cor. NW NE Sec. 19-1s-19.
S.D.; W.O. 3,050 ft.

Snow-Black Pet. Co.'s No. 1 Bedford, 680 ft. N and 150 ft. E. SW cor. Sec. 32-11-18.
Derrick up on new hole.

W. B. Street, trustee's No. 1 Roth & Cartier, 330 ft. N and E, SW cor. SW NE.
Testing 1,404 ft.

Poinsett County

Rockwell Dev. Co. No. 2 W. A. Smith, 52 ft. S, 190 ft. E of center NE NE sec. 13-11n-3e.
Drlg. 650 ft.

Pulaski County

Base Line Oil Co. No. 1 Wilson, SW cor. NE SE sec. 28-1s-11w.
Set 8¼-in. 123 ft.

Sevier County

Pendleton & Vaughn's No. 1 Dierke, C NW NE Sec. 14-10-29.
W.O.; cable tools 610 ft.

Union County

J. J. Allen No. 1 Union Sawmill, 750 ft. W, 330 ft. N, C sec. 8-17-12.
S.D.; rig repair, 2,490 ft.

Arkansas Southern Oil Co.'s No. 1 F. R. Laney, Sec. 30-19-16.
Installing larger rig 175 ft.

J. C. Buckbee, Tr.'s No. 1 Sloan, 330 ft. N and E, SW cor. SE NW.
W.O.S.R. 2,160 ft.

J. E. Crosbie, Inc., No. 2 Sullivant, 200 ft. N, 250 ft. E, SW cor. SE sec. 13-17-14.
Set 8-in. 3,154 ft.

Mrs. R. K. Jones et al's No. 1 Davis, 330 ft. N and W, SE cor. NW NW Sec. 28-16-14.
Arranging to test 3,297 ft.

MISSISSIPPI

Bolivar County

White & Jones' No. 1 Ballou, SE SE NW Sec. 17-24n-7w.
S.D. 1,614 ft.

Clarke County

L. Beckwith et al's No. 1 Long Bell Lbr. Co., 538 ft. S, 125 ft. W of C Sec. 10-3n-16e.
T.A.; lack of funds.

Clarke County Oil Co.'s No. 1 Dora Butler, C SW SW Sec. 15-3n-16e.
Set 10-in. 63 ft.

Greene County

United Gas Pub. Ser. Co.'s No. 1 William Unit, 200 ft. N, 100 ft. W, C SW Sec. 6-15-5w.
Drlg. 2,550 ft.

Harrison County

Big Ridge Oil Co.'s No. 1 Hinzin, NE Sec. 18-7s-10w.
S.D.; W.O. 1,100 ft.

Lafayette County

W. L. Stewart et al's No. 1 Russell, 1,320 ft. N, 1,720 ft. E, SW cor. Sec. 9-10s-1w.
Drlg. 2,670 ft.

Lauderdale County

Bob Dalton's No. 1 Bounds, Sec. 34-7n-15e.
S.D.; W.O. 1,800 ft.

Warren County

H. W. Elliott et al's No. 2 R. L. Parker, 780 ft. E, 1,570 ft. S, NW cor. Sec. 14-14n-1e.
S.D.; W.O. 1,600 ft.

Washington County

Perkins & Dees' No. 1 Lee, 1,500 ft. E, 500 ft. N, SW cor. Sec. 33-15n-3w.
S.D. 2,175 ft.

Winston County

Jack Vale et al's No. 1 Moody, 713 ft. N, 667 ft. E, SW cor. NW SW Sec. 8-13n-14e.
Set 6-in. 2,212 ft.

ALABAMA

Houston County

Rice O. & G. Co.'s No. 1 Oakley Est., SE cor. NW SW Sec. 9-3n-29e.
S.D. 3,035 ft.

Lamar County

DeSoto O. & G. Corp.'s No. 1 Gardner, Sec. 22-15s-16w.
Drlg. 4,705 ft.

Mobile County

J. C. Prine's No. 1 C. H. M. King, N½ NE Sec. 4-1n-4w.
Drlg. 2,890 ft.

FLORIDA

Lake County

Oil Dev. Co. of Florida's No. 1 South Lake, SE SE Sec. 17-24s-25e.
Cmtd. 9⅝-in. csg. at 2,200 ft.

LA.-ARK. PROVEN

NORTH LOUISIANA

Caddo—Rodessa

Ark.-La. Gas Co. No. 7 Rodessa Oil & Land Co., 330 ft. S and W, NE cor. NW NE sec. 23-23-16.
Rigging up.

Ark.-La. Gas Co. No. 6 Rodessa Oil & Land Co., 400 ft. S, 200 ft. E, NW cor. SW NW sec. 23-23-16.
Drlg. 4,730 ft.

Ark.-La. Gas Co.'s No. 5 Rodessa O. & Land Co., 289 ft. S, 140 ft. E, C Sec. 23-23-16.
Drlg. 5,590 ft.

Bartex Pipe Line Co.'s No. 1 Norton Est., 660 ft. N and W, SE cor. NE Sec. 18-23-15.
Drlg. 5,130 ft.

Bartex Pipe Line Co.'s No. 1 Rodessa O. & Land Co., 660 ft. N and W, SE cor. NE SE Sec. 13-23-16.
Derrick.

Danciger & Hall's No. 1 Willis C Lot 5, Blk. 7, Sec. 23-23-16.
Drlg. 1,700 ft.

Haynes Prod. Co. No. 5 Sexton, 287 ft. S, 308 ft. W, NE cor. NW SE sec. 14-23-16.
Set 12½-in. 250 ft.; drlg. 785 ft.

Haynes Prod. Co. No. 5 Lawton, 1,980 ft. E, 968 ft. N, SW cor. sec. 14-23-16.
Drlg. 4,933 ft.

Haynes Prod. Co. No. 6 Lawton, 290 ft. S, 330 ft. W, NE cor. SE NW sec. 14-23-16.
Set 12½-in. 250 ft.

Haynes Prod. Co. No. 1 J. Caldwell, 660 ft. N, 2,079 ft. E, SW cor. sec. 12-23-16.
Drlg. 5,592 ft.

Haynes Prod. Co. No. 2 Caldwell, 660 ft. N, 770 ft. E, SW cor. SW SE sec. 12-23-16.
Set 12½-in. 257 ft.

Haynes Prod. Co. No. 4 Lawton, 290 ft. S, 336 ft. W, NE cor. SE SW sec. 14-23-16.
Set 7-in. 5,863 ft.; T.D. 5,870 ft.

Haynes Prod. Co.'s No. 1 Mattie Pitts, 290 ft. N, 264 ft. W, SE cor. NE NW sec. 14-23-16.
Set 7-in. 5,876 ft.

Haynes Prod. Co.'s No. 4 Sexton, 337 ft. N, 330 ft. W, SE cor. SW NE sec. 14-23-16.
Comp.; 174 bbls. per hr., 6,030 ft.

Lion Oil Ref. Co. No. 1 J. M. Wynn, 1,900 ft. N, 660 ft. E, SW cor. sec. 9-23-15.
Drlg. 2,650 ft.

M. H. Marr et al's No. 1 W. J. Hunter, 330 ft. S and E, NW cor. SW sec. 13-23-16.
Testing 6,040 ft.

Geo. Mannahan's No. 1 T. M. Comegys, 330 ft. N and W, SE cor. NE SE Sec. 10-23-16.
Swbng. to test 5,905 ft.

R. W. Norton No. 3-A Caddo Levee Board, C NE SW sec. 21-23-16.
Drlg. 4,280 ft.

R. W. Norton No. 2 Tyson heirs, 688 ft. S, 1,980 ft. W, NE cor. sec. 33-23-16.
Set 9⅝-in. 2,050 ft.; drlg. 4,718 ft.

Pelican Oil & Gasoline Co. No. 8 Sexton, 650 ft. N, 990 ft. W, SE cor.
Set 16-in. 257 ft.; drlg. 653 ft.

Pelican Oil & Gasoline Co. No. 7 Sexton, 330 ft. S and W, NE cor. NE SE sec. 14-23-16.
Drlg. 5,027 ft.

Pelican Oil & Gasoline Co. No. 5 Sexton, 330 ft. N and W, SE cor. SE NE sec. 14-23-16.
Drlg. 5,456 ft.

Pelican Oil & Gasoline Co.'s No. 4 Sexton, 330 ft. S and W, NE cor. SE NE sec. 14-23-16.
Drlg. 5,056 ft.

Pelican Oil & Gasoline Co.'s No. 6 Sexton, 330 ft. S and E, NW cor. NE SE sec. 14-23-16.
Set 7-in. 5,964 ft.; T.D. 6,010 ft.

Pelican Oil & Gasoline Co.'s No. 3 Sexton, 330 ft. S and E, NW cor. SE NE Sec. 14-23-16.
Set 7-in. 5,939 ft.; T.D. 5,972 ft.

Pelican Oil & Gasoline Co. No. 10 Sexton, 330 ft. S and E, NW cor. SE SE sec. 14-23-16.
Set 16-in. 250 ft.; drlg. 785 ft.

United Gas, Public Service Co. No. 2 Bremer Unit, 2,178 ft. S, 660 ft. E, NW cor. sec. 22-23-16.
Set 9⅝-in. 2,151 ft.; drlg. 3,450 ft.

United Gas Public Service Co. No. 3 Bremer Unit, sec. 22-23-16, 328 ft. N. 565 ft. W of center.
Drlg. 4,002 ft.

United Gas Public Service Co. No. 4 Bremer Unit, sec. 22-23-16, 289 ft. S, 140 ft. W, center.
Set 9⅝-in. 2,132 ft.; drlg. 3,403 ft.

United Gas Public Service Co. No. 1 Brewer, 2,000 ft. N, 720 ft. E, SW cor. sec. 21-23-16.
Set 9⅝-in. 2,158 ft.; drlg. 3,490 ft.

United Gas Public Service Co. No. 1 V. I. Miller, 990 ft. S and E, NW cor. sec. 14-23-16.
Drlg. 3,846 ft.

United Gas Public Service Co. No. 1 W. A. Mitchell, 1,980 ft. N, 1,922 ft. W, SE cor. of frac. sec. 20-23-16.
Set 9⅝-in. 2,157 ft.

United Gas Public Service Co. No. 4 Rodessa Oil & Land Co., 350 ft. N, 160 ft. E, C sec. 22-23-16.
Set 9⅝-in. 2,130 ft.; drlg. 2,742 ft.

United Gas Public Service Co. No. 5 Rodessa Oil & Land Co., 1,178 ft. S, 660 ft. E, NW cor. sec. 22-23-16.
Set 9⅝-in. 2,160 ft.; drlg. 2,470 ft.

United Gas Public Service Co. No. 6 Rodessa Oil & Land Co., 1,980 ft. W, 1,850 ft. N, SE cor. sec. 15-23-16.
Drlg. 4,050 ft.

United Gas Public Service Co. No. 1 W. B. Spearman, 660 ft. N, 1,980 ft. E, SW cor. sec. 15-23-16.
Set 9⅝-in. 2,179 ft.; drlg. 3,110 ft.

United Gas Public Service Co.'s No. 2 Ardis & Co., 330 ft. N, 1,980 ft. E, SW cor. sec. 14-23-16.
Drlg. 5,195 ft.

United Gas Public Service Co.'s No. 3 Rodessa O. & Land Co., 660 ft. S, NW cor. sec. 23-23-16.
Drlg. 5,825 ft.

United Gas Public Service Co.'s No. 1 Poole, 660 ft. S and W, NE cor. Sec. 21-23-16.
Testing 5,997 ft.

United Gas Public Service Co.'s No. 1 Ardie & Co., 660 ft. N, 1,980 ft. W, SE cor. Sec. 14-23-16.
Comp.; 63 bbls. per hr., 6,010 ft.

G. H. Vaughn Prod. Co. No. 2 Hunter Derryberry, 330 ft. S, 772 ft. W, NE cor. NW NW sec. 14-23-16.
Coring 6,000 ft.

Sabine Parish—Zwolle

Alexander & Crane's No. 1 Fogman, SE cor. N½ SW NE Sec. 18-7-11.
S.D. 2,655 ft.

Ivan A. Allen No. 1 Travis, 330 ft. S and W of NE cor. NE NW Sec. 13-7-11.
W.O. 6-in. csg., 2,361 ft.; (corrected).

Ellis Prod. Co. No. 1 Williams, 330 ft. S and W, NE cor. SE NE sec. 23-7-11.
S.D. 115 ft.

H. C. Maulding's No. 1 Davis, 350 ft. N and W, SE cor. NE NE Sec. 2-7-11.
S.D. 400 ft.

A. H. Tarner's No. 1 Baker, 330 ft. S and E NW cor. NW NE Sec. 36-8-12.
Drlg. 4,418 ft.

EAST TEXAS

(Border Counties)

Cass County

American Liberty Oil Co.'s No. 1 J. B. Rodgers, 330 ft. N, 430 ft. W, SE cor. of 160-ac. tract in C. M. Robinson Sur.
Coring 5,980 ft.

R. W. Norton's No. 1 Haywood, 660 ft. N, 580 ft. W, SE cor. Priscilla Evans Sur.
Coring 5,950 ft.

Harrison County

R. C. Payne et al's No. 1 Lowery, H. D. Spain Sur.
P.B. to 3,524 ft.

Marion County

Ed S. Holman's No. 1 Henderson, R. Bennington Sur.
P.B. to 2,443 ft.

Panola County

George Hudson et al's No. 1 J. F. Nail, C. McGeary Sur.
Set 8-in. 40 ft.; fishing for core bbl. at 2,345 ft.

Geo. Le Grand's No. 1 P. J. Wardleigh, A. Thompson Sur.
Set 10-in. 62 ft.

Oil Well Supply Co. Personnel Changes

The Oil Well Supply Co. announces the following personnel changes, effective January 1, 1936:

J. H. Foster has been appointed general attorney, with headquarters in Dallas, Tex.

Paul P. Findley has been elected secretary and appointed assistant general attorney, with headquarters in Dallas, Tex.

R. C. Stamets has been appointed manager of the tubular goods department, Midwest division, with headquarters in Dallas, Tex.

G. E. Niver has been appointed manager of the export division, with headquarters in New York City.

Charles L. Lockett, Jr., has been appointed manager of sales for the export division, with headquarters in New York City.

E. W. Criswell has resigned as secretary and general attorney to become secretary of National Tube Co., with headquarters in Pittsburgh, Pa.

H. J. Morlang has resigned as a vice president to become vice president in charge of sales of oil country goods of National Tube Co., with headquarters in Dallas, Tex.

J. E. Goble has resigned as manager of the export division to become vice president in charge of sales of National Tube Co., with headquarters in Pittsburgh, Pa.

PERSONAL

GLENN S. DILLE, chief paleontologist for The Texas Co., in the Oklahoma-Kansas-Kentucky division, resigned, effective January 1, and will remain in Tulsa as a consulting geologist. Mr. Dille received his A.B. degree at Coe College, Cedar Rapids, Iowa, and his M.S. and Ph.D. degrees at the University of Iowa. He entered the service of Texas Co. in June, 1929. He is president of the Tulsa Stratigraphic Society and member of the American Association of Petroleum Geologists.

COL. VICTOR SPENCER has returned to Vancouver, British Columbia, from a tour of the East Texas field.

FRED THILENIUS, Great Lakes Pipe Line Company, Minneapolis, Minn., was in Tulsa for the Christmas holiday.

R. L. PATTINSON, of Chatham, Ontario, spent the Christmas holidays with MRS. PATTINSON and family at St. Petersburg, Fla.

JACK C. ROSS, consulting geologist of Tulsa, home for the holidays, reports an increasing volume of new work around San Antonio, in Southwest Texas.

CHARLES B. JOHNSON, petroleum engineer, with British American Oil Producing Company, has been transferred to the Oklahoma City field from Louisiana.

NEIL McQUEEN and W. McKENZIE, of Vancouver, British Columbia, visited Lethbridge, Alberta, recently in connection with the completion of the Terminal well on the Del Bonita structure.

E. H. GRISWOLD, petroleum engineer and assistant division manager of the Continental Oil Company, Fort Worth, Tex., is leaving that company the first of the year to go with J. M. RUSH, independent operator of Dallas, Tex.

S. MYRON ZANDMER, president of Terminal Oil Company, who has been supervising drilling operations of his company on the Del Bonita structure near Lethbridge, Alberta, spent Christmas at his home in Los Angeles, Calif.

W. C. MORGAN, superintendent of the machine shop of the Magnolia Petroleum Company at Electra, Tex., has been promoted to district superintendent of shops for the company in North Texas and Oklahoma. He will have headquarters at the company's main office in Dallas, Tex. C. M. REASOR, of Duncan, Okla., has been transferred to Electra to assume charge of the shop in that field.

FRANK SEVEREN, of the Superior Oil Company of California, in charge of East Texas properties, has been transferred to Oklahoma City.

W. ROSS KEYTE, geologist with Dow, Inc., has joined the West Texas geological staff of the Marathon Oil Company, with headquarters at San Angelo, Tex.

MALCOLM DUNCAN, of Tulsa, Mid-Continent representative for the Johns-Manville Sales Corporation, left on Tuesday with MRS. DUNCAN to attend a company sales conference in New York City. They will return in about 10 days.

JAMES B. BLACK has been elected president of the Pacific Gas & Electric Company, succeeding the late A. F. HOCKENBEAMER. Mr. Black was formerly vice president and general manager of the Great Western Power Company of California.

WILLIAM FREDERICK PIELSTICKER, of the legal department of Skelly Oil Company, was married on Saturday to MISS MARJORY JEAN PADON in the Church of Christ King, Tulsa. They will reside in Tulsa.

CLINT MOORE, repressure engineer with the Phillips Petroleum Company in the Burbank pool, spent a short vacation with his parents in Tulsa during the Christmas holidays.

CHARLES B. WRIGHTSMAN, president of the Standard Oil Company of Kansas, and MRS. WRIGHTSMAN, who reside in Houston, Tex., spent the Christmas holidays with the former's parents, MR. and MRS. CHAS. J. WRIGHTSMAN of Tulsa.

H. S. DIEM, vice president, and H. C. BUNDY, secretary, Olson Drilling Company; DEKE BERRY, Olson representative in the Burrton, Kansas, area, and STEELE NEELEY, Hinderliter Tool Company, motored to New Orleans to attend the New Year's Day football game in the Sugar Bowl between Louisiana State and Texas Christian Universities. J. K. KEENAN, consulting geologist, of Tulsa, also attended the game in New Orleans.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Jessie I. Gillespie, representative from Tulsa in the Oklahoma legislature, has been made chairman of the house committee on oil and gas because he is a practical oil man.

Joseph E. Dutton, who recently resigned as district superintendent of the Buckeye Pipe Line Company to go with the Gulf Pipe Line Company, will be stationed in Tulsa in charge of the Oklahoma division.

Dan A. Herring, an old-time scout in the Pennsylvania oil fields along with P. C. Boyle, Jo Cappeau, Jim Tennant and others, is now operating an asphalt mine in the Ada district in Oklahoma.

20 YEARS AGO

Perry Smiley, superintendent of tankage for National Transit Company, dies in Bradford, Pa.

Magnolia Petroleum Company takes over Corsicana Petroleum Corporation and Magnolia Pipe Line Company, and increases its capital stock from $9,800,000 to $20,000,000.

Patrick L. White retires as president of Kathleen Oil Company and other White and Sinclair subsidiaries, and is succeeded by H. F. Sinclair.

Marcus L. Lockwood, veteran oil man, dies in Tulsa.

The new year opens with Mid-Continent crude $1.20 per barrel, Pennsylvania Grade $2.25, Healdton 55 cents, and Gulf Coast 50 to 60 cents.

10 YEARS AGO

The year starts off with the United States producing 1,989,000 barrels of oil a day, and the price is $1.79 for 36 gravity Mid-Continent crude, the scale running from $1.15 for 28 gravity up to $2.43 for 44 gravity and over.

It is rumored that a consolidation of the Barnsdall and Waite Phillips companies is imminent.

Fred F. Mellott, chief engineer of the Humble Pipe Line Company, dies near Pittsburgh, Pa., and is buried at Everett.

Some pessimistic scientists in the oil business fear that by 1936 we will have to turn to the shale beds for our crude.

Robert D. Benson, one of the founders of the Tide Water Oil Company, retires as chairman of the board of directors, but will continue as a member of the board.

A. E. SAYLES, formerly in the legal department of the Pure Oil Company at Saginaw, Mich., has been transferred to the land department and moved to Fort Worth, Tex.

EDWARD MANCILL, in the geophysical department of the Humble Oil & Refining Company, recently transferred from Rankin, Tex., to Houston, spent Christmas with his mother at Cisco, Tex.

DAVID DONOGHUE, well known consulting geologist of Fort Worth, Tex., has been appointed trustee of the Trinity Refining Company in the East Texas field, by the United States Federal District Court of Fort Worth.

EMIL H. HASTINGS, attorney, graduate of the University of Oklahoma and son of ED R. HASTINGS, attorney for Selby Oil & Gas Company, has opened an office in the Kennedy Building, Tulsa, for general law practice.

R. C. ALLEN has been named general counsel for the Oklahoma Natural Gas Corporation and a member of the company's directorate and executive committee. Mr. Allen, a former district judge of Oklahoma, became associated with the company in 1926.

H. H. ARNOLD, JR., district geologist at Shawnee, Okla., for The Texas Co., has been transferred to the company's geological staff in the Tulsa office, effective January 1. E. A. DAWSON, who has been assistant geologist in The Texas Co. office at Wichita, Kan., succeeds Mr. Arnold at Shawnee.

TOM ANGLIN, of the Interstate Oil Compact Commission and attorney for W. A. DELANEY, Jr., Ada, Okla., oil producer, leaves January 3 for Washington and Philadelphia on business, being accompanied by MRS. ANGLIN. In Washington he will discuss methods of arriving at crude estimates for states.

PARAGRAPHS

WALTER R. RAMSEY, president of Ramsey Petroleum Corporation, and a party of friends, attended the S.M.U.-Stanford football game at Pasadena, Calif., on New Year's day.

BENEDICT I. LUBELL, son of PRESIDENT LUBELL of the Bell Oil & Gas Company, has moved to Tulsa to become secretary of the firm. He succeeds the late JESSE FINSTON.

H. S. McCLINTOCK, assistant to R. H. LYNN, vice president in charge of the land department for Phillips Petroleum Company, has become manager of the company's southern Oklahoma district, with headquarters at Ardmore. ED I. THOMPSON, a former geologist in the Oklahoma City division, has been sent to the new southern Oklahoma district.

J. E. GOBLE, late of New York and manager of the export division of the Oil Well Supply Company at New York City, on January 1 became vice president in charge of sales of the National Tube Company and moved to Pittsburgh, Pa. W. F. McCONNOR, assistant general manager of sales of the National Tube, was promoted to the office of general manager of sales on the same date.

GEORGE L. BOURNE, president of the Superheater Company, of New York, and a director of the Lummus Company, is on a visit to London.

SIR JOHN CADMAN, G.C.M.G., D.Sc., chairman of the Anglo-Iranian Oil and Iraq Petroleum Companies, has been reelected president of the Institution of Petroleum Technologists for a second term.

FORREST E. LOVE, formerly district treating engineer for the Phillips Petroleum Company at Seminole, has resigned to accept a position as sales engineer for the Tretolite Company, of St. Louis. His headquarters will be in Shawnee.

S. A. HARTWELL, JR., European representative of the Pennsylvania Grade Crude Oil Association, has changed his headquarters from 14, Place Vendome, Paris, to care of Guaranty Trust Company, 50, Pall Mall, London, S.W. 1.

JOHN W. CHOATE, independent operator of Southwest Texas, left San Antonio several days ago on a business trip to New York City. He plans to return in the near future and begin wildcat operations in the Edwards Plateau region of Texas.

NELSON K. MOODY, president of the Sinclair Prairie Oil Marketing Co. and R. S. ELLISON, president of the Stanolind Pipe Line Co. and Stanolind Crude Oil Purchasing Co. were elected directors of the Tulsa Chamber of Commerce at a meeting of directors on Monday. LEE C. MOORE, retired, veteran supply man, was elected honorary treasurer.

COL. S. J. M. AULD, O.B.E., M.C., D.Sc. (Vacuum Oil), ASHLEY CARTER (Oil Well Supply), C. DALLEY (British Controlled), PROF. A. W. NASH (University of Birmingham), J. McCONNELL SANDERS, F.I.C. (Anglo-Saxon) and DR. F. B. THOLE, F.I.C. (Anglo-Iranian) have been reelected vice presidents of the Institution of Petroleum Technologists.

RAY KETTLESON, formerly land man for the Tide Water Oil Company in Kansas, Oklahoma and Texas, but now an independent operator at Houston, Tex., spent the holidays with friends in Cisco, Tex.

EDGAR BOGARDUS, expert sales prognosticator for the Standard Oil Company (Indiana), retired on December 31 after 45 years' service with the company. He was honored at a luncheon at the Blackstone Hotel in Chicago on Friday evening. Mr. Bogardus was station agent at Whiting when construction of a refinery began there in 1889 and went to work for the company in 1890. He has been assistant to the vice president for 15 years. Mr. Bogardus will be succeeded by J. C. MARSHALL, another old-timer with the company, with a long record as a sales executive and several years' experience as assistant general manager of sales west of Chicago.

VANCE E. ROWE, of Tulsa, publisher of Petroleum Statistical Guide and formerly of the land department of the Carter Oil Company in the Rocky Mountain and Mid-Continent fields, has an interesting article in the January number of Sports Afield, entitled "Ginger." It is a story of a great bird dog. Mr. Rowe, whose favorite diversion has to do with hunting and fishing, is an interesting writer, with a literary style that easily holds the reader's interest.

C. B. WILKINSON, of the North Texas Oil Company, Denver, Colo., is spending some time in Fort Worth, Tex., on company business.

Uncle Tim Started Him

It really was Tim O'Sullivan who got Roger J. Fleckenstein started in oil. Mr. Fleckenstein, now vice president of production for the Texas Pacific Coal & Oil Company, was 10 years old when the family moved from Buffalo, N. Y., his birthplace, to Springville, a less sophisticated town in the same state. Graduating from high school in the same class with him in 1907 was a nephew of Mr. O'Sullivan, then vice president of the Peoples Natural Gas Company. Both boys were looking for jobs, so Uncle Tim had them go to Pittsburgh, Pa., where he started them out with a pipe line construction gang. One thing led to another till in 1912 young Roger was put on lease work. For four years he laid lines, pulled oil and gas wells and did the regular run of jobs. At the end of that time he was made assistant superintendent of the Clarion (Pa.) district, with oversight of drilling as well as production operations.

ROGER J. FLECKENSTEIN

One day a telegram came from a friend who had gone to Wyoming with the Midwest Refining Company. It offered him the position of superintendent of the Big Muddy field and named a satisfactory salary, so in January, 1919, Mr. Fleckenstein assumed the new place. He stayed there till the fall of 1920, when he went to Fort Worth, Tex., as assistant superintendent of the Texas Pacific. He was promoted to general superintendent in 1925. In 1934 he was elected vice president of production.

Mr. Fleckenstein married Miss Phyllis Kerr in Clarion, Pa., and they have six children. Fishing is his favorite sport, but baseball and racing get his enthusiastic attention in their season.

E. L. BUCKLEY, president of the Midland Oil Co., San Antonio, Tex., is spending several weeks with his family in Tampico, Mexico.

CAPT. THOMAS S. MASTERSON, D.S.O., director of the Phoenix Oil & Transport Company, Ltd., in Rumania, left London after a brief business visit.

HOMER P. LEE, JR., oil operator of San Antonio, Tex., was a recent Tulsa business visitor. He operates in southern Texas, and has concentrated some of his operations on the Lee ranch, 50 miles from Laredo.

DAN L. MAHONEY, with the lease and land department for the Stanolind Crude Oil Purchasing Company in the Wichita Falls district of North Texas, has been transferred to Ardmore, Okla., and will assume his new duties at once.

J. E. FARRELL, president of J. E. Farrell & Company, Fort Worth, Tex., and discoverer of the Longview extension of the East Texas field, received a 10½-pound son for a Christmas present at St. Josephs Hospital in that city on Christmas morning. MRS. FARRELL is vice president of the company.

B. P. SIBOLE, vice president, Stanolind Pipe Line Company, and M. E. MONTROSE, Mid-Continent representative of Lane-Wells Company, will be the speakers at the meeting of the Tulsa chapter, American Petroleum Institute, January 8, RAY E. MILLER, vice president, Hanlon-Buchanan, Inc., chairman, announced.

JACK CLOVER is the new production superintendent for the H. F. Wilcox Oil & Gas Company, succeeding W. J. MORRISON, who died recently as the result of injuries received in an automobile accident near Pampa, Tex. Mr. Clover has been with the Wilcox company for 10 years, having been assistant production superintendent the last five years.

Spread of Retail Price Cutting Causes Disturbed Situation in New York

By C. O. WILLSON

NEW YORK, Dec. 30.—The spread of retail price cutting in Metropolitan New York has brought a disturbed situation in local gasoline markets. The hopes of distributors that the 3 cent reduction in Brooklyn and Kings County effective December 17 could be confined to that section proved futile when the same reduction was made in Manhattan and the Bronx boroughs, December 26. Later the lower prices spread to the adjoining Westchester County and Connecticut.

The new retail price on regular grade gasoline in Manhattan and the Bronx is 16.8 cents including 4 cent state and 1 cent federal taxes and exclusive of a city sales tax of 2 per cent. This is the lowest price since last spring and the first time that any reduction has been made in this market in several months. While many connected with the distributing end of marketing were still hopeful that the price-war situation would be ended in a few days others were fearful that it would spread to include adjoining points in New Jersey and large distributing points in New England. For the first time in several months the New Jersey price of 17.5 cents for regular grade motor fuel is now higher than the Manhattan price across the Hudson River. It was indicated here that sellers in New Jersey would not permit this condition to continue more than a few days.

In the meanwhile the tank car gasoline prices in New York harbor continued unchanged. The prices are: 6 cents for low octane, 6¼ cents for middle octane, 6¾ cents for 65 octane and above and 7 to 7¼ cents for regular ethylized branded grades of major companies. While the cold weather and the development in the local retail markets has served to slow up spot gasoline sales, the market is firm at these prices for New York and New England delivery. New Jersey prices continue one-fourth cent lower than the above schedules. These local refinery prices are being supported with a firm market at the Gulf. Buyers report that Gulf sellers are asking a minimum of 5⅝ cents for 65 octane material and do not appear anxious to take on business for January at that price.

It is admitted that the tight situation of a few weeks ago in which a few refiners in this section and the Gulf were hard pressed to keep their terminals and bulk stations supplied with gasoline has ended with a majority of the refiners starting their winter storage programs. So far as the tank car market is concerned one observor says that prices in this territory will continue firm through January regardless of what happens to the retail markets. He says that in a majority of cases refiners have projected their refinery operations over the next 30 to 90 days and are willing to store any gasoline in excess of their current requirements during that period. The same authority says that certain refiners at the Gulf and along the Atlantic Seaboard are anxious to secure additional crude oil at this time in order to increase their plant operations and build up refinery storage of gasoline which they feel confident they will require starting in the summer months of 1936. This optimistic attitude regarding the probable 1936 demand appears to be general. Two cases are cited in which major distributors in this territory are anticipating a 5 per cent increase in gallonage for 1936 over 1935 and are basing their plant operation on that estimate.

This optimistic position regarding 1936 does not detract from the seriousness of the immediate market condition in this section. As previously indicated it could easily spread and might mean a winter period of low prices despite the outlook for the spring and summer of 1936. One sales manager believes that the price cutting is the start of improved posted dealer and retail marketing conditions. He explains that the price cutting reflects the first reaction of the efforts being made to bring a more healthy condition in gasoline markets after the product leaves the refinery. He points out that the producing and refining branches of the oil business over the past year have been gradually getting their houses in order and the ending of certain marketing practices is the final step necessary to bring the industry on a generally satisfactory operating basis. He points especially to wide guaranteed margins to jobbers and dealers and special discounts to commercial accounts as the source of the local price difficulties. These practices were the direct result of the long period of overproduction in which refiners were willing to give any concessions necessary to find outlets for gasoline production. It is now felt that this situation has ended. Refiners do not have to guarantee jobbers a profitable margin regardless of what happens in open market operations and the same relative situation is found in the dealer accounts. Companies are analyzing their distributing operations and it is anticipated that over the next few months they will gradually drop those practices which are responsible for unprofitable operations. Certain factors in retail marketing who in the past have profited from these operations are objecting and naturally are doing everything possible to prevent the changes now under way. Attempts in the past to make these changes have proved futile due to the weak situation in the refining and crude oil markets.

In this connection, commercial accounts are receiving attention. The large accounts in this city over the past year have been buying their gasoline at prices which were only a fraction of a cent above the prevailing tank car prices. An analysis recently made showed that many of these accounts were being carried at a loss to the seller. It has been indicated that prices to most of these accounts should not be more than 2 cents under the retail prices.

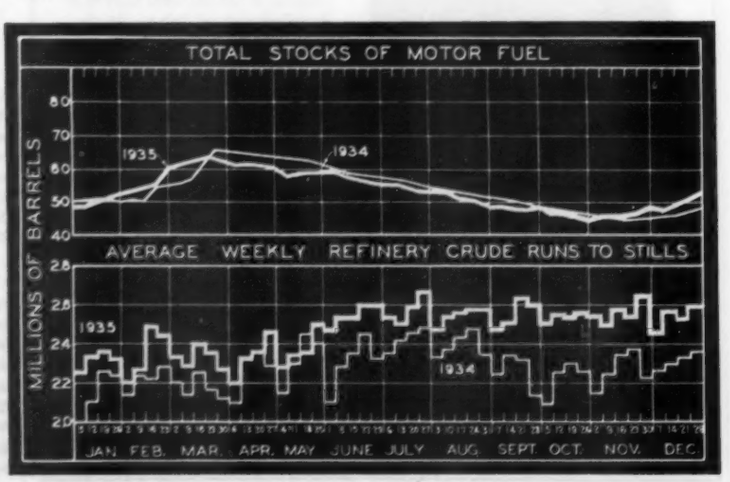
A. P. I. Weekly Refinery Statistics

Week Ending December 28, 1935

	Capacity reporting per cent	Daily crude runs (bbls.)	Total gasoline (bbls.)	Gas oil and fuel oil (bbls.)
East Coast	100.0	460,000	13,537,000	9,215,000
Appalachian	94.8	98,000	2,292,000	930,000
Indiana, Illinois, Kentucky	95.9	350,000	8,723,000	3,815,000
Oklahoma, Kansas, Missouri	84.8	237,000	5,542,000	4,675,000
Inland Texas	48.5	85,000	1,380,000	1,495,000
Texas Gulf	96.8	601,000	6,320,000	11,044,000
Louisiana Gulf	96.4	132,000	1,354,000	4,558,000
North Louisiana and Arkansas	90.0	52,000	298,000	614,000
Rocky Mountains	61.9	38,000	958,000	737,000
California	92.6	547,000	11,405,000	67,970,000
Total United States	89.6	2,600,000	51,809,000	105,053,000

Stocks (barrels)	Dec. 28, 1935	Dec. 29, 1934
Finished Gasoline	46,472,000	43,969,000
Unfinished gasoline	5,337,000	5,016,000

NOTE: In addition to the above are stocks classified as "Stocks of Other Motor Fuel." These stocks total around 5,500,000 bbls., but show only minor changes and are not included in this weekly summary.



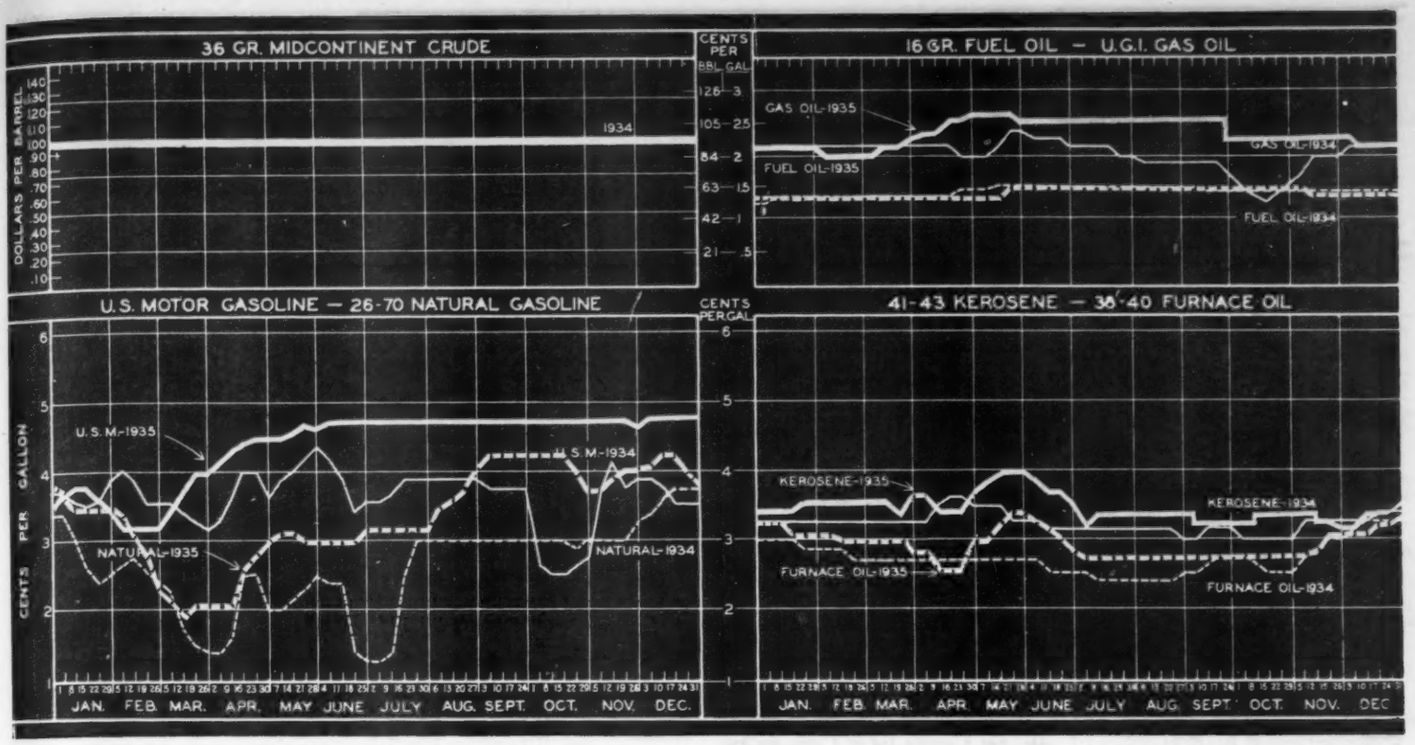
Other Products

Local tank car prices on other products are generally steady. Bunker fuel at 95 cents is active and the cold weather has brought an improvement in the tank car and tank wagon deliveries of furnace oils. Prices on the latter range from 4 to 5¼ cents. Kerosene continues at 5¼ cents. Lubricating oils and wax prices are unchanged with the usual holiday lull in new buying.

Average Retail Price

The average service station price of regular grade or middle octane gasoline, exclusive of all state and federal taxes, on January 1, 1936, was 13.72 cents a gallon, according to figures based on the pump prices in 50 representative cities in the United States. This figure represents an increase of .02 cent a gallon over December, 1935, when the average was 13.70 cents a gallon.

Entering the year of 1935 at the low price of the year, 12.90 cents a gallon, the price of gasoline advanced to the year's high on August 1 when the price was 14.1 cents. The price declined in September and on October 1 was 13.42 cents. The prices on November 1 and December 1 were successively higher and on January 1, 1936, service station operators, according to these figures, are receiving .82 cent more for their product than they were a year ago.



Group 3 Gasoline Market Enters New Year Under Heartening Conditions

By T. F. SMILEY

It would not be difficult to get enthusiastic over the tankcar gasoline market in the Group 3 area as it glides into the new year, but unhappy recollections of how favorable conditions have been wrecked in the past serve to temper any inclination to overoptimism. There is no reason in the world, however, for refusing to feel cheerful or shutting one's eyes to the fact that the outlook is much better than it was a year ago.

For one thing, this probably was the first time secondary refineries (those without their own retail outlets or with outlets for only part of their production) approached the end of the year without trying hard to reduce their inventories for taxation purposes. The reason lay in the fact that there were few inventories to be reduced.

Expected Lower Prices

This unusual situation seems to have been brought about by the fact that back in October and November these refiners, looking daily for a drop in prices, allowed no stocks to accumulate on their hands. Their offerings, coming just when gasoline was entering its season of lowest consumption, imposed a severe test on the market, but they were absorbed through intercompany buying. Stocks thus reduced were kept low, with the result that the year's end saw little urgent selling.

Reductions in runs to stills helped to preserve the orderly market established. In the meantime, under the improved conditions, tankcar prices, except for a short spell of weakness at the close of November, continued on the same level maintained throughout the season of peak demand.

As a result of the better tankcar prices for gasoline (they have been running 1 to 2 cents higher than those in the corresponding weeks of 1934) predictions are made that the earnings statements of Mid-Continent refiners for the second half of 1935 will offer good reading.

Refined Oil Market Barometer

Few sections of the market had thrown off the lethargy which fastened upon it at the close of the old year. Heating oils were an exception, lively demand having been created by cold weather in much of the country. Wretched driving conditions kept the movement of motor fuels down. General marketing prospects regarded as favorable, though the retail gasoline situation in the East is discouraging.

MID-CONTINENT. Gasoline slow. Natural weak. Heating oils in lively demand. Wax vigorous.

EAST COAST. Price-cutting in retail gasoline, but tankcar prices steady.

GULF COAST. Market quiet, awaiting end of holiday season. Prices unchanged.

PENNSYLVANIA. All sections of the market suffering from holiday dullness.

CALIFORNIA. Holiday listlessness prevails throughout market.

CHICAGO. Heating oils active. Kerosene firmer. Gasoline in fair demand in spite of bad roads.

The blizzard which swept much of the country in the last week made roads hazardous, keeping thousands of motor cars in the garage, with the result that spot business in gasoline was dull. It was expected to pick up readily as soon as driving conditions become more nearly normal.

Natural gasoline continued its downward movement, prices losing more of their ground. While it is true refiners were keeping their purchases down to as low a volume as possible at the year's end, the major reason for the present weak market in natural gasoline is believed to lie in the continued operation of plants in the Texas Panhandle. When the state's gas conservation law went into effect last August 1, taking more than 200,000 gallons of Panhandle natural gasoline off the market daily, a wave of buying began in preparation for an expected shortage. Although the Panhandle plants were reopened under injunctions, it was believed their operation would be of short duration, and vigorous buying continued well into September. Rumors that a court decision upholding the law was about to be handed down caused a revival of active buying in December. One postponement of hearings on the injunctions has followed another, and the plants are still running. In the meantime the market is still suffering from undigested overbuying.

Likely to Help the Naturals

The natural gasoline pipe line to be built by Humble Oil & Refining Co. from London to Bayton, in Texas, with Hanlon-Buchanan, Inc., constructing gathering lines, is expected to have a pronounced effect on the natural gasoline trade in Group 3, since it probably will become an outlet for virtually all that material originating in the East Texas field, with the two companies named as active buyers.

Both kerosene and distillates were stronger, with advances in prices. The sudden onset of wintry weather caught many jobbers with inadequate stocks of furnace oil, and the last week has seen scrambling for material. In many cases kerosene is reported to have been shipped in response to orders for distillates, with the result that kerosene benefited from the demand for heating oils to almost as great an extent as did the distillates.

Bright stocks and neutrals were firm and in excellent demand. Wax, well sold up and in lively demand, was one of the strongest spots in the list. The heavy fuels were sluggish.

RETAIL OIL MARKETS

Tank wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of December 31, 1935

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank wagon or 3 cents a gallon off retail prices is permitted for purchases between 4,000 and 10,000 gallons per month, or 4 cents a gallon off retail prices for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Chicago	16.0	16.0	4.0	9.5
Decatur, Ill.	15.5	16.5	4.0	9.5
E. St. Louis	15.2	17.2	4.0	9.5
Joliet	15 5	16.0	4.5	9.5
Peoria	15.5	15.5	4.0	9.5
Quincy	15.2	17.2	4.0	9.5
Davenport, Ia.	15.5	(†)	4.0	9.5
Des Moines	15 2	(†)	4.0	9.6
Mason City	15.7	(†)	4.0	10.0
Sioux City	15.5	(†)	4.0	9.5
Duluth, Minn.	16.2	16.2	4.0	10.0
Mankato	15.9	17.9	4.0	10.2
Minneapolis	15 9	17.9	4.0	10.2
LaCrosse, Wis.	16.9	18.9	5.0	10.2
Green Bay	17.2	19.2	5.0	10.5
Milwaukee	15.3	16.8	5.0	10.1
Madison	16.9	18 9	5 0	10.2
Detroit, Mich.	13 5	15 5	4 0	9 3
Grand Rapids	15.6	15.6	4.0	9.6
Saginaw	16.1	18.1	4.0	9.3
Evansville, Ind.	17.2	19.2	5.0	10.2
Indianapolis	17.4	19.4	5.0	10.5
South Bend	17.6	19.6	5.0	9.0
Fargo, N. Dak.	16.9	18.9	4.0	11.2
Huron, S. Dak.	17.4	19.4	5 0	8 5
Sioux Falls	16.9	18.9	5.0	9.0
Kan. City, Mo.*	14.9	16.9	4.0	7.0
Springfield	14.6	16.6	4.0	8.9
St. Louis	15.2	17.2	3.5	9.5
St. Joseph*	14.9	16.9	4.0	8.2
Wichita, Kans.	14.4	16.4	4.0	6 8
Bartlesville, Okla.	16.0	18.0	5.0	8.5

*State tax 2 cents, 1-cent city tax and 1-cent federal tax.

†Standard Oil Co. (Indiana) has leased all service stations in Iowa.

Discounts to dealers: Undivided accounts, 1⅝ cents on premium and regular and 2⅛ cents on third grade off service station prices; divided accounts one-half cent less than undivided. Discounts to dealers in metropolitan Chicago one-half cent larger than rest of Standard of Indiana territory, namely 4 cents and 3 cents on respective grades. Where prices are more than 1 cent below normal, the discounts are one-half cent less than above.

Stanolex Furnace Oil in Chicago

Effective June 27, 1935, f.o.b. Chicago tank wagon prices: Range oil, less than 100 gallons, 8.5 cents; 100-149 gallons, 7.5 cents; 150 gallons and more, 7.0 cents. No. 1 (36-40 lt. stw. zero), less than 100 gallons, 8.5 cents; 100-149 gallons, 7.5 cents; 150 gallons or more, 7.0 cents; No. 2 (30-34, stw. zero), same prices and quantities as No. 1; No. 3 (32-36, zero), less than 150 gallons, 7.2 cents; 150 gallons or more, 6.2 cents. No. 4 (12-16 zero) less than 400 gallons, 7.2 cents; 400 gallons or more, 6.2 cents, viscosity of No. 4, 75° and 100° F.; No. 5, less than 400 gallons 5⅛ cents; 400 gallons or more 4⅛ cents.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Denver, Colo.	18.0	20.0	5 0	11.0
Pueblo	18.0	20.0	5 0	13 0
Grand Junction	20.5	22.5	5.0	15.0
Casper, Wyo.	18.5	20.5	5.0	13 5
Cheyenne	18.5	20.5	5 0	13.0
Butte, Mont.	21.0	23.0	6.0	17.5
Billings	19.5	21.5	6.0	16.5
Helena	21.5	23.5	6.0	17.5
Great Falls	20.5	22.5	6.0	17.5
Salt Lake, Utah	16.0	18.0	5.0	16.0
Twin Falls, Ida.	23.0	25.0	6.0	18.0
Boise	22.5	24.5	6.0	18.0
Albu'que, N. M.	20.0	22.0	*5.5	13.0

*One-half cent city tax.

Discount to dealers with or without contract in Continental territory: Undivided dealer discount off service station price, 4 cents; divided dealer accounts, 3½ cents.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Atlanta, Ga.	21.0	23.0	7.0	*13.0
Augusta	20.5	22.5	7.0	*12.0
Macon	20.5	22.5	7.0	*13.0
Savannah	18.5	20.5	7.0	12.0
Birm'ham, Ala.	21.5	23.5	8.0	11.0
Mobile	19.5	21.5	8.0	12.0
Montgomery	22.0	24.0	9.0	15.5
Jackson, Miss.	19.25	21.0	7.0	*11.0
Vicksburg	18.25	19.5	7.0	*12.0
Jacksonville, Fla.	19.0	21.0	8.0	10.0
Miami	19.0	21.0	8.0	13.5
Pensacola	21.0	23.0	8.0	11.5
Tampa	19 0	21.0	9.0	10.0
Lexington, Ky.	19 5	21.5	6.0	11.0
Covington	18.0	20 0	6.0	10.5
Louisville	18 5	20 5	6.0	10.0
Paducah	15.5	16.0	6.0	8.0

*Includes 1 cent state tax in addition to the state tax of 6 cents. Montgomery, Ala., has a county tax of 1 cent per gallon and a city tax of 1 cent per gallon on gasoline, and 1 cent per gallon on kerosene. Mobile and Birmingham, Ala., each have a city gasoline tax of 1 cent per gallon. Pensacola, Fla., has a city gasoline tax of 1 cent.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Dallas, Tex.	15.0	17.0	5.0	7.0
Fort Worth	15.0	17.0	5 0	7.0
Houston	16.0	18.0	5.0	8.0
San Antonio	16.0	18.0	5.0	8 0
El Paso	18.0	20.0	5.0	10.0
Muskogee, Okla.	16.0	18.0	5.0	7.0
Okla. City	16.0	18.0	5.0	8.0
Tulsa	16.0	18 0	5.0	8.0
Ft. Smith, Ark.	15.0	18.5	5.0	8.0
Little Rock	17.5	21 0	7.5	9.5
Texarkana	15.5	17.5	5.0	8.0

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Atl'tic City, N. J.	13.8	17 3	4.0	9.0
Newark	13.8	17.3	4.0	7.5
Annapolis, Md.	15 1	18 6	5 0	10.0
Baltimore	14.5	18 0	5.0	7.5
Cumberland	16.1	19.6	5.0	12.7
Wash'g'n, D. C.	12.5	16.0	3.0	9.0
Danville, Va.	14 9	20.4	6.0	12.9
Norfolk	15.4	18 9	6 0	11 3
Petersburg	16 1	19.6	6.0	11.7
Richmond	15.8	19.3	6.0	11.7
Roanoke	17.1	20.6	6.0	12.9
Charles'n, W. Va.	15.3	18 8	5.0	12.6
Parkersburg	14 6	18.1	5.0	11.2
Wheeling	15.5	19.0	5.0	12.2
Charlotte, N. C.	18 2	21.7	7.0	12.9
Hickory	18.5	22.0	7.0	13.1
Mt Airy	18.5	22.0	7.0	13.2
Raleigh	17.9	21.4	7.0	12.7
Salisbury	18 3	21.8	7.0	13.0
Charleston, S. C.	16.5	20.0	7.0	11.3
Columbia	17.8	21.3	7 0	12.6
Spartanburg	18.2	21.7	7 0	13.9

Tank wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount (if necessary) is given.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Omaha	17.9	19.9	6.0	10.1
McCook	18.6	20.6	6.0	9.0
Norfolk	18.8	20.8	6.0	10.5
North Platte	18.7	20.7	6.0	10.9
Scottsbluff	19.4	21.4	6.0	11.6

Note: Discounts to dealers: where service station gasoline prices are (maximum overall, including rent) as follows: Reliance, 3⅛ cents; Standard Red Crown, 3⅛ cents; Red Crown Ethyl, 3⅛ cents.

Where service station gasoline prices are below normal resellers' allowances are reduced one-half of the amount below normal, down to the following (minimum overall, including rent): Reliance, 2 cents; Standard Red Crown, 3 cents; Red Crown Ethyl, 3 cents. Discounts to consumers for tank wagon deliveries covered only by Standard Commercial Consumers Contract, effective January 1, 1935.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Ohio points	17.0	19 0	5.0	*12.5

*Includes state tax of 1 cent.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Philadelphia, Pa.	16.0	18.0	5.0	9.0
Pittsburgh	17.0	19.0	5.0	10.0
Allentown	16.5	18.5	5.0	9.0
Erie	16.0	18.0	5.0	8.0
Scranton	16.5	18.5	5.0	10.0
Altoona	17.0	19.0	5.0	9.0
Dover, Del.	16.5	18.5	5.0	10.0
Wilmington	16.0	16.0	5.0	9.0
Springf'd, Mass.	13.5	17.0	4.0	7.25
Worcester	13.5	17.0	4.0	7.5
Hartford, Conn.	13.5	17.0	4.0	6.75
New Haven	13.5	17.0	4.0	7.0
Providence, R. I.	13.5	16.0	3.0	7.0

Note—Tank wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
N. Orleans, La.	18.0	21.5	‡8.0	12.0
Baton Rouge	17.0	20.5	†7.0	11.5
Alexandria	18.0	21.5	†‡8.0	10.5
Lafayette	18.5	22.0	‡*8.0	12.5
Lake Charles	18.5	22.0	†*8.0	†11.0
Shreveport	16.5	20.0	†7.0	9.0
Knoxville, Tenn.	20.5	24.0	8.0	14.0
Memphis	18.5	22.0	8.0	9.5
Chattanooga	20.0	23.5	8.0	11.5
Nashville	19.5	23.0	8.0	10.0
Bristol	18.35	21.1	8.0	14.5

*Includes city tax of 1 cent.

†Includes 1-cent parish tax. ‡Includes 2-cent parish tax

Tank wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at dealer price less one-half cent.

Louisiana kerosene prices include 1-cent state tax.

New York and New England

SOCONY-VACUUM CO., INC.

	Gasoline Post deal	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Albany, N. Y.	14.5	18.0	5.0	7.75
*Met. New York	12.55	16.8	5.0	7.25
*Br'kl'n, Queens	12.3	16.3	5.0	7.25
Buffalo	13.0	14.0	5.0	8.0
Rochester	16.5	17.5	5.0	8.0
Syracuse	15.0	18.5	5.0	8.5
Boston, Mass.	13.5	17.0	4.0	7.0
Portland, Me.	15.0	18.5	5.0	7.75
Manch'ter, N. H.	15.0	18.5	5.0	8.0
Burlington, Vt.	16.5	20.0	5.0	8.75

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
San Francisco	14.0	16.0	4.0	11.5
Los Angeles	13.5	15.5	4.0	10.5
Fresno, Calif.	14.5	16.5	4.0	9.0
Phoenix, Ariz.	18.0	20.0	6.0	‡16.0
Reno, Nev.	17.0	19.0	5.0	13.0
Portland, Ore.	16.5	18.5	6.0	13.5
Seattle, Wash.	16.5	18.5	6.0	13.5
Tacoma	16.5	18.5	6.0	13.5
Spokane	19.5	21.5	6.0	16.5

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where discount is 1 cent.

‡Includes 5-cent state tax.

Canada*

Imperial 3-Star Gasoline
IMPERIAL OIL, LTD.

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Hamilton, Ont.	20.0	22.5	6.0	16.5
Toronto, Ont.	20.0	22.5	6.0	16.5
Brandon, Man.	30.3	32.3	7.0	21.3
Winnipeg, Man.	28.7	31.7	7.0	20.3
Regina, Sask.	30.0	32.0	7.0	21.3
Saskatoon, Sask.	33.3	35.3	7.0	24.3
Edmonton, Alta.	33.2	35.2	7.0	23.7
Calgary, Alta.	29.5	32.5	7.0	21.0
Vancouver, B. C.	26.0	29.0	7.0	24.0
Montreal, Que.	17.5	20.0	6.0	17.0
St. John, N. B.	26.0	29.0	8.0	19.5
Halifax, N. S.	24.0	29.0	8.0	19.5

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price; undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal where discounts below station price are one-half cent per gallon less.

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Retail Price Changes

Imperial Oil, Ltd. December 21 reduced tank wagon and station gasoline 1 cent in Hamilton and Toronto and on the same date reduced tank wagon and station gasoline 3 cents in Montreal.

Standard Oil Co. of Kentucky December 5 reduced tank wagon gasoline .5 cent and station gasoline 1 cent in Vicksburg and on December 17 further reduced tank wagon prices .25 cent; December 6 reduced tank wagon kerosene 2 cents in Paducah, December 12 reduced tank wagon gasoline 2 cents and station gasoline 3.5 cents and on December 13 further reduced tank wagon and station gasoline 1 cent; December 9 reduced tank wagon kerosene 1 cent in Birmingham; December 11 reduced tank wagon gasoline 1.25 cents and station gasoline 2 cents in Pensacola; December 15 advanced tank wagon kerosene 2 cents in Mobile and on December 7 reduced tank wagon and station gasoline 1 cent; December 19 reduced tank wagon kerosene 1 cent in Savannah, and on December 24 reduced tank wagon gasoline .25 cent and station gasoline .5 cent in Jackson.

Standard Oil Co. (Indiana) December 27 reduced tank wagon kerosene 2 cents in South Bend and 2.2 cents in Sioux Falls.

Standard Oil Co. of Nebraska December 22 reduced tank wagon kerosene 1.8 cents in McCook.

Lease New Deal Plant

FORT WORTH, Tex., Dec. 30.—New Deal Refining Co. of Abilene has leased its 750-bbl. capacity plant to John Basom and others who have shipped in 10 cars of 21-gravity McMullen County crude for processing into lube oil. The plant has operated on high-gravity crude from fields in Jones County, trucked to the plant and gasoline sold in the surrounding territory.

The Students' Medal and Prize, for 1935, of the Institution of Petroleum Technologists was awarded to H. T. Lorne, B.Sc., A.R.C.S., of the Anglo-Iranian Oil Co.'s research branch.

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of December 31, 1935

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:

Below 63 octane	.04¾	.04⅞
63-70 octane	.05⅝	.05⅞

60-62 400 grade:

Below 63 octane	.04¾	.04⅞
63-70 octane	.05⅝	.05⅞
64-66 375	.04⅞	.05
68-70 360	.05	.05⅛

NORTH TEXAS—

U. S. Motor grades:

Below 63 octane		.04¾
63-70 octane	.05⅝	.05⅝
60-62 400	.04¾	.04⅞
64-66 375	.04⅞	.05

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:

Below 63 octane		.05¼
63-70 octane		.06¼
60-62 400		.05½

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:

Below 63 octane		.05¼
63-70 octane		.06¼

CHICAGO (based on Group 3)—

U. S. Motor grades:

Below 63 octane	.04¾	.04⅞
63-70 octane	.05⅝	.05⅝
60-62 400	.04⅝	.04⅞
64-66 375	.04⅞	.05
68-70 360	.05	.05¼

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:

Below 60 octane		.05¼
60-64.9 octane		.06⅝
65-70 octane		.07
64-66 375		.05⅝
68-70 350		.05⅝

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.05	.06
58-60 400	.05⅝	.06

EAST COAST—

U. S. Motor, below 60 octane:

*New York (Bayonne)		.06¼
Baltimore		.06

U. S. Motor, 60-64.9 octane:

*New York (Bayonne)		.06½
Philadelphia		.06½
Boston		.06½
Baltimore		.06¼
Charleston, S. C.		.06¼

U. S. Motor, 65 and above:

*New York (Bayonne)		.06¾
Philadelphia		.06¾
Boston		.06¾
Baltimore		.06½
Charleston, S. C.		.06½

*All grades of gasoline one-fourth cent less for barge shipments. The above New York harbor prices are for New York state and New England delivery. For delivery in New Jersey and other points the prices are one-fourth cent less.

GULF COAST (domestic)—

U. S. Motor grades:

Below 60 octane	.05⅛	.05⅜
60-64.9 octane	.05⅝	.05⅝
65 octane and higher	.05⅝	.05⅝

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)		.05⅛
52-54 450 (blending)		.05⅛
54-56 450 (blending)		.05⅛

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.03⅝	.03¾
Grade 18-55	.04⅜	.04½

Low vapor pressure grade:

*14 lb. v.p. (max.)	.05	.05⅛
*12 lb. v.p. (max.)	.05⅝	.05⅛

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70		.03⅝

NORTH TEXAS—

Grade 26-70		.03½
Grade 18-55	.04¼	.04¼

CALIFORNIA—

75-85 375-390	.04⅝	.05⅛

*Nominal.

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03⅜	.03½
42-44	.03½	.03⅝

NORTH TEXAS—

41-43	.03½	.03⅝

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43		.03⅝

ARKANSAS (Ark., N. La., Miss. del.)—

41-43		.04¼

PENNSYLVANIA (inland refineries)—

45		.04⅝
46		.04⅞
47		.05

CHICAGO (based on Group 3)—

41-43	.03¼	.03½
42-44	.03½	.03⅝

CALIFORNIA (Pac. Coast market)—

38-40 high burning test	.04	.05

NEW YORK (Bayonne, N. J.)—

*41-43		.05¼

GULF COAST (domestic)—

41-43	.04¼	.04½

*Barge price one-eighth cent lower.

Petroleum Coke

(Prices per ton f.o.b. Chicago area. Refineries absorb freight to 80 cents a ton.)

Pile run	6.25
Direct from still	7.25
Egg, nut, pea	8.00
Lump	8.75

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.03⅜	.03½
No. 1 straw, 38-40	.03¼	.03⅜
No. 2 straw, 32-36	.03¼	.03¼
No. 2 dark, 32-36	.03	.03¼
No. 3, 28-32	.02⅝	.03
No. 3, 15 and above, 28-32	.02½	.02⅝

NORTH TEXAS—

No. 1 prime white, 38-42	.03⅜	.03½
No. 1 straw, 38-40	.03¼	.03⅜

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.03⅛	.03¼

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36		.03½
No. 3, 28-32		.03¼

CHICAGO (based on Group 3)—

No. 1 prime white, 38-40	.03⅜	.03½
No. 1 straw, 38-40	.03¼	.03⅜
No. 2 straw, 32-36	.03¼	.03⅜
No. 2 dark, 32-36	.03	.03⅛
No. 3, zero to 15, 28-32	.02⅞	.03
No. 3, 15 and above, 28-32	.02¼	.02½

NEW YORK (Bayonne, N. J.)—

*No. 1		.05¼
*No. 2		.04..
*No. 4		.04

*Barge deliveries one-eighth to one-fourth cent under above tank car price

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅛	.02¼
No. 4, 24-28	.87½	.90
No. 4, 15 and above, 24-28	.75	.80
No. 5	.70	.75
No. 6	.65	.67½
Below 18 fuel oil, industrial	.60	.65

NORTH TEXAS—

U.G.I. gas oil	.02⅛	.02¼
No. 4, 24-28	.87½	.90
No. 5	.70	.75
No. 6	.65	.67½
Below 18 fuel oil, industrial	.60	.65

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U.G.I. gas oil	.02⅞	.03
10-14 fuel oil, industrial	.75	.80

ARKANSAS (Ark., N. La., Miss. del.)—

10-14 fuel oil, industrial	.60	.65

CHICAGO (based on Group 3)—

U.G.I. gas oil	.02¼	.02⅝
No. 4, 24-28	.85	.90
No. 4, 15 and above, 24-28	.72½	.77
No. 5, 18-22	.57½	.62½
No. 6, 10-15	.50	.55

Fuel oils of more than 40 cold test generally 5 to 15 cents per bbl. in these areas.

PENNSYLVANIA (inland refineries)—

36-40	.04⅛	.04⅛

CALIFORNIA—

Los Angeles:

30-34 gas oil, per bbl.	1.10	1.25
27 plus diesel	1.10	1.25
27 plus diesel (bunkers)	1.25	1.30
12-16 (bunkers at tidewater)	.87	.95
10-16 (cargo lots)	.80	.90
12-17 (tank cars)	.60	.95

San Joaquin Valley:

10-18 (tank cars)	.60	.75

San Francisco:

27 plus diesel, per bbl.		1.25
27 plus diesel (bunkers)		1.35
10-16 (bunkers)		1.00

GULF COAST—

28-30 gas oil		.03¼
28-30 diesel (bunkers)		1.70
Bunker C (bulk cargoes)	.70	.75
Bunker C (bunkers)		.80

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil	.04	.04¼
28-30 diesel (lighterage 6¼ plus per bbl.)		1.65
28-30 diesel (tank cars)		.04¼
*Bunker C (to ocean-going ships in N. Y. harbor)		.95
Industrial fuel (tank cars)		.03⅞

*Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

Bright Stocks:

190-200 D, 15-25		.20
150-160 D, 0-10		.17
150-160 D, 15-25		.16½
150-160 E, 15-25		.16
100-110 D, 0-10		.15⅝

Steam refined:

630 green (treated)		.09½
600 light green, untreated		.08½

PENNSYLVANIA—

600 dark green, untreated	.05	.06

Bright Stocks (Pennsylvania grade, No. 8 color, 145-50 at 510; 540-550 flash):

10 pour test	.22	.22½
15 pour test	.21	.21½
20 pour test	.20	.20½
25 pour test	.19	.19½

Steam refined:

600	.09½	.10
650	.11	.11½
600 Pennsylvania flash	.12	.12½
630 flash	.17	.17½
600 Warren E filtered	.13	.13½

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:

150-3		.10
180-3		.11¼
180-4		.10¾
200-3		.11⅜
200-4		.11¼
250-3		.13⅜
250-4		.13¼
280-3		.14⅜
280-4		.14
300-2½		.15½
400-3½		.16
100-2 paraffin oil		.05⅝

15-20 Cold Test:

200-3		.10⅜
200-4		.10¼
240-3		.12⅜
240-4		.12¼
280-3		.13⅜
280-4		.13

GULF COAST—

Pale Oils:

200-3	.07	.07½
300-3	.07½	.08
500-3½	.08½	.09
750-3½	.09	.09¼
1,200-3½	.09½	.09⅝
2,000-4	.09⅝	.10

Red Oils:

200-5-6	.07	.07¼
300-5-6	.07¼	.07½
500-5-6	.08	.08⅛
750	.08½	.09
1,200-5-6	.09	.09½

CALIFORNIA (moving to dom. market)

Pale Oils:

100-2½-3	.06¾	.07
200-2½-3	.07¼	.07½
300-3-3½	.09	.09½
400-3-4	.09½	.09⅝
450-3-4	.09⅝	.10
550-3-4	.10	.10¼
600-3-4	.10¼	.10⅜

Red Oils:

200-4-5	.06¾	.07
300-5-6	.07¼	.07⅛
350-5-6	.07⅛	.07⅜
400-5-6	.07⅜	.08
450-5-6	.08	.08¼
500-5-6	.08¼	.08⅜
600-5-6½	.08⅜	.08⅝
700-6½ plus	.08⅝	.09
750-6½ plus	.09	.09½
900-6½ plus	.10	.10⅝

PENNSYLVANIA—

150 vis. at 70° F., color, 400-405 flash:

Zero pour test	.21	.21⅛
10 pour test	.20	.20⅛
15 pour test	.19½	.20
25 pour test	.18½	.19

180 vis. at 70° F., 3 color:

25 pour test	.21	.21⅛

200 vis. at 70° F., 3 color:

Zero pour test	.25½	.26
10 pour test	.24½	.25
15 pour test	.24	.24½
25 pour test	.23	.23½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale		.02⅛

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0235	.0240
124-126 (a.m.p.) w.c. scale	.0235	.0240

NEW YORK—

Wax in bags fully refined:

122-125 (a.m.p.) wax		.0420
125-127 (a.m.p.) wax		.0430
128-130 (a.m.p.) wax		.0455
130-132 (a.m.p.) wax		.0480
133-135 (a.m.p.) wax		.0510
135-137 (a.m.p.) wax		.0565
124-126 (a.m.p.) w.s.		.0225
124-126 (a.m.p.) y.s.	.0220	.0225

Petrolatum in barrels, carload lots:

Dark green		.01⅛
Amber	0.2⅝	.03
Extra amber	.03	.03½
Lily white	.06⅝	.06⅝
Snow white	.07⅝	.07⅞
Cream	.05⅝	.05⅝

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.05⅝
60-62 400	.05½	.05⅝
61-63 390		.05⅝
64-66 375		.05⅞

LOS ANGELES—

U. S. Motor grades:

53-55 octane		.04
55-65 octane	.04	.04¼
65-67 octane	.04¼	.04½
67-69 octane	.04½	.04⅝
Above 69 octane	.04⅝	.05
58-60 400 endpoint	.04⅝	.05¼

KEROSENE

GULF COAST—

41-43 prime white		.03⅞
41-43 water white	.03⅝	.04
44 water white		.04¼

LOS ANGELES—

41-43 water white	.04¼	.04⅝

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.b. in bbls.)—

Cylinder Stocks:

600 Warren E	.19½	.20
600 S.R. unfiltered		.16½
650 S.R. unfiltered	.17½	.18
600 flash S.R.	.18½	.19
630 flash S.R.	.23	.24

Bright Stocks:

8 color	.26	.26½
6½ plus color in dilution		.25½

NEUTRAL OIL

200-3 color		.29½
150-3 color		.25

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.	.035	.03625
125-127 a.m.p.	.03625	.0375
128-130 a.m.p.	.03875	.0400
130-132 a.m.p.	.04125	.04250
133-135 a.m.p.	.04625	.04750
135-137 a.m.p.	.04875	.0500

Crude scale:

124-126 w.s.	.0220	.0225
124-126 y.s.		.0230

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

Corsicana (heavy) (June 17, 1933) .... .80
East Texas $1.00
Other fields .....(See gravity table)

West Texas

Crane Upton, Crockett, Howard, Glasscock, Mitchell (Sept. 23, 1933).....$ .70
Ector, Winkler and Pecos Counties and Lea County, New Mexico (Sept. 29, 1933) ..... .75
Pecos County, Yates shallow Pool (Sept. 29, 1933)* ..... .65
Jones and Fisher Counties* ..... (See gravity table)

Rocky Mountain States

Iles, light, (Sept. 29, 1933) .....$ .96
Iles, heavy (Sept. 29, 1933) ..... .90
Florence, Colo. (June 17, 1933)..... .90
Fort Collins and Wellington, Colo., (June 17) .....(See Salt Creek prices)
Big Muddy (Sept. 29, 1933)..... 1.01
Frannie, light (May 1, 1934)..... .70
Frannie, heavy (Sept. 29, 1933)..... .62
Salt Creek and LaBarge (Sept. 29, 1933) .....
(See Stanolind Mid-Continent price schedule.)
Grass Creek, light (Sept. 29, 1933)...$1.13
Grass Creek, heavy (Sept. 29, 1933)... .62
Elk Basin (Sept. 29, 1933)..... 1.13
Rock Creek (Sept. 29, 1933)..... 1.02
Lance Creek (Dec. 16, 1932) ..... .92
Hudson (June 2, 1931) ..... .85
Lost Soldier (Sept. 30, 1933)..... .93
Hamilton Dome, all grades (Feb. 16, 1935) ..... .57
Torchlight (Sept. 29, 1933) 1.13
Greybull (Sept. 29, 1933) 1.13
Pondera (Sept. 29, 1933) 1.25
Sunburst (July 19, 1935) 1.20
Cat Creek, Montana 1.07
Hogback (Sept. 29, 1933) 1.11
Lea County, N. Mex. (Sept. 29, 1933).. .75
Maljamar (Sept. 29, 1933) ..... .70
Artesia-Jackson (Dec. 1, 1933)..... .75

Gulf Coast

Grade A and Grade B specification discontinued by leading buyers. ..... (See gravity table)
Hardin (Aug. 3, 1935) .....$ .92
Tomball (see note)* 1.15
Livingston (Sept. 29, 1933)†..... 1.00
Cleveland (Jan. 11, 1934)..... 1.00
Gretz (June 29, 1935) ..... .80
Refugio, light .....(See gravity table)
Refugio, heavy (June 29, 1935)‡ ..... .80
Conroe.....(See Conroe gravity table)
Markham and High Island ....(See Gulf Coast gravity table)
Bosco, La. (Jan. 15, 1935)§ ..... .90

Anahuac and Dickinson posted by Humble August 29, 1935, price of 94 cents per barrel on 30-30.9 gravity with 2 cents per degree increase with top 40 gravity $1.14.

Note — Tomball, effective September 29, by Humble Oil & Refining Co. and October 2 by Magnolia Petroleum Co., and November 10 by Stanolind Crude Oil Purchasing Co.

*Greta posted by Texas Co. †Shell Petroleum Corp. ‡Refugio heavy by Humble Oil & Refining Co. Cleveland and Hardin posted by Magnolia Petroleum Co. §Bosco posted by Pure Oil Co.

Middle Western States

OHIO OIL CO.

Luma (Feb. 1, 1935) $1.15
Illinois (Jan. 5, 1934) 1.13
Princeton, Ind. (Jan. 5, 1934) 1.13
Plymouth .....Shut in
Midland, Mich. (Dec. 15, 1935)* 1.22
West Branch, Mich. (Nov. 7, 1935).. .95
Muskegon, Mich. 1.00
Ogemaw, Mich. ..... .96
Eastern Kentucky:
Big Sandy River (Dec. 19, 1935).. 1.20
Kentucky River (Dec. 19, 1935) 1.28
Western Kentucky (May 22, 1935).... 1.13

*Posted by Pure Oil Co., Simrall Pipe Line Co. Ogemaw and West Branch, Mich., by Simrall Pipe Line Co., Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades) .....$ .70
Tullos, Urania, La. (Jan. 13, 1934).... .87
Nevada, Ark. (Sept. 29, 1933)..... .60
East El Dorado (Sept. 29, 1933)..... .70
Converse, La. (Mar. 17, 1934)..... 1.03
Elm Grove, La. (Sept. 29, 1933)..... .75
Holly, La. (Nov. 17, 1934)..... 1.03
Pleasant Hill, La. (Mar. 17, 1934)... 1.03
Zwolle, La. (Mar. 17, 1934) 1.03
Champagnolle, Ark. (Mar. 17, 1934)... .81
Lisbon, Ark. (Mar. 17, 1934)..... 1.03
Stephens, Ark. (Sept. 29, 1933)..... .70
Urbana, Ark. (Mar. 17, 1934)..... .40
Other fields .....(See gravity table)

Eastern States

TIDE WATER PIPE CO.
(Effective Nov. 20, 1935)

Bradford, Pa. $2.30
Allegany, N. Y. 2.30

SOUTH PENN OIL CO.
(Effective Nov. 20, 1935)

Pennsylvania Grade Oil in National Transit Lines (Bradford field) $2.30
Pennsylvania Grade Oil in Southwest Pennsylvania Lines 2.02
Pennsylvania Grade Oil in Eureka Pipe Line lines 1.97
Pennsylvania Grade Oil in Buckeye Pipe Line lines 1.82
Corning Grade Oil in Buckeye Pipe Line Co.'s lines 1.82

PENNZOIL CO.
(Effective Nov. 20, 1935)

Pennsylvania Grade Oil in National Transit Lines:
Group A $2.27
Includes Cochran, Franklin, Hamilton and Doolittle districts.
Group B 2.24
Includes Titusville district.
Group C 2.25
Includes Turkey and Tidioute districts.
Group D 2.24
Includes Bear Creek and Porkey districts.
Group E 2.21
Includes Rideneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.
Price depends on length of pipe line haul to plant at Oil City.

PURE OIL CO.
(Effective Nov. 20, 1935)

Cabin Creek, W. Va. $1.97
Bradford Hollow, W. Va. 1.97
Kelly Creek, W. Va. 1.97

South Central and Southwest Texas

Darst Creek .....$ .87
Mirando (June 29, 1935) ..... .75
Luling (Sept. 29, 1933) ..... .75
Pettus 1.05
Salt Flat ..... .87
Lytton Springs (Sept. 29, 1933)..... .95
Duval County (June 29, 1935) ..... .75
Saxet (June 29, 1935) ..... .80
Port Lavaca (July 1, 1935) ..... .80

Canada

Ontario (Sept. 9, 1933):
Petrolia* $2.10
Oil Springs 2.17
Turner Valley (May 21, 1934):†
Clear naphtha 2.55
Discolored naphtha 2.37
Crude oil, 50 gravity 2.10
Crude oil, 45 to 49.9 ..... 2.07
Crude oil, 40 to 44.9 ..... 1.50

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco* .....$ .85

*F.o.b. ship, based on October transactions and exclusive of production and export taxes and bar dues.

Crude Prices by Gravities

Gravity—	Oklahoma and Kansas 1	North Texas, Central Texas and East Central Texas 2	North Louisiana and Arkansas 3	Gray County, Texas 4	Carson, Hutchinson and Moore Counties, Texas 5	Conroe, Texas 6	Salt Creek, Wyo. 7	Gulf Coast, Texas and Louisiana 8	Gulf Coast, Texas and Louisiana 9	Cotton Valley, Louisiana 10
Below 20	....	....	....	....	....	....	....	$ .82	$ .82	....
20-20.9	....	....	....	....	....	....	....	.84	.84	....
21-21.9	....	....	....	....	....	....	....	.86	.86	....
22-22.9	....	....	....	....	....	....	....	.88	.88	....
23-23.9	....	....	....	....	....	....	....	.90	.90	....
24-24.9	....	....	....	....	....	....	....	.92	.92	....
Below 25	*$.76	....	....	....	....	....	....	....	....	$.70
25-25.9	*.78	....	....	....	....	....	....	.94	.94	.72
26-26.9	*.80	....	....	....	....	....	....	.96	.96	.74
27-27.9	*.82	....	....	....	....	....	....	.98	.98	.76
28-28.9	*.84	....	....	....	....	....	....	1.00	1.00	.78
Below 29	.84	$.79	$.79	....	....	....	$.84	....	....	....
29-29.9	.86	.81	.81	....	....	....	.86	1.02	1.02	.80
30-30.9	.88	.83	.83	....	....	....	.88	1.04	1.04	.82
31-31.9	.90	.85	.85	....	....	....	.90	1.06	1.05	.84
32-32.9	.92	.87	.87	....	....	....	.92	1.08	1.06	.86
33-33.9	.94	.89	.89	....	....	....	.94	1.10	1.07	.88
34-34.9	.96	.91	.91	....	....	....	.96	1.12	1.08	.90
Below 35	....	....	....	$.79	$.69	....	....	....	1.09	.92
35-35.9	.98	.93	.93	.81	.71	$1.09	.98	1.12	1.09	.92
36-36.9	1.00	.95	.95	.83	.73	1.11	1.00	1.12	1.10	.94
37-37.9	1.02	.97	.97	.85	.75	1.13	1.02	1.12	1.11	.96
38-38.9	1.04	.99	.99	.87	.77	1.15	1.04	1.12	1.12	.98
39-39.9	1.06	1.01	1.01	.89	.79	1.17	1.06	1.12	1.13	1.00
40 and over	1.08	1.03	1.03	.91	.81	1.19	1.08	1.12	1.14	1.02

Oils for Standardizing Available at A.P.I.

The committee on testing methods and specifications of the division of refining of the American Petroleum Institute has, during the past year, prepared and tested new stocks of oil for standardizing viscosity equipment. These oil standard stocks are designated as "Alpha 35" and "Beta 35." One quart samples in glass may be obtained from the committee at a price of $5.00 per quart. Requests accompanied by remittance should be addressed to Dr. T. G. Delbridge, chairman, Committee on Viscosity Standardization, 3144 Passyunk Avenue, Philadelphia, Pa.

STANDARD OIL CO. OF CALIFORNIA

Effective December 6, 1935, and met by all other purchasers. (Ventura Avenue and Belridge posted by Associated Oil Co.; Rincon by General Petroleum Corp.) All gravities above those posted take highest posted price in the field.

Gravity—	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda-Brea Canon	Athens Rosecrans Dominguez	Elwood Terrace	Torrance	Richfield	Kettleman Hills	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River Round Mountain	Mountain View	Midway-Sunset Elk Hills Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge	Ventura Avenue	Rincon	Belridge
14-14.9	$.75	$.74	$.73	$.74	$.75	$.71	....	....	$.75	$.71	....	$.71	$.72	$.73	....	$.65	....	$.65	$.65	$.65	....	....	....	.65
15-15.9	.75	.74	.73	.74	.75	.71	....	....	.75	.71	....	.71	.72	.73	....	.65	....	.65	.65	.65	....	....	....	.65
16-16.9	.75	.74	.73	.74	.75	.71	....	....	.75	.71	....	.71	.72	.73	....	.65	....	.65	.65	.65	....	....	....	.65
17-17.9	.75	.74	.73	.74	.75	.71	....	....	.75	.71	....	.71	.72	.73	....	.65	....	.65	.65	.65	....	....	....	.65
18-18.9	.75	.74	.73	.76	.75	.73	....	....	.75	.71	....	.71	.72	.73	....	.65	....	.65	.65	.65	....	....	....	.65
19-19.9	.76	.74	.74	.77	.76	.75	....	....	.77	.71	....	.71	.72	.73	....	.65	$.65	.66	.68	.66	$.65	....	....	.68
20-20.9	.76	.74	.76	.79	.79	.77	....	....	.78	.71	....	.73	.72	.73	....	....	.65	.68	.71	.67	.65	....	....	.71
21-21.9	.78	.74	.78	.81	.81	.79	....	....	.80	.71	....	.75	.72	.75	$.73	....	.65	.71	.73	.69	.65	....	....	.73
22-22.9	.80	.74	.80	.82	.84	.81	....	....	.81	.73	....	.77	.72	.77	.73	....	.66	.74	.75	.71	.67	.73	.69	.75
23-23.9	.82	.77	.82	.84	.86	.83	$.79	....	.83	.75	....	.79	.74	.79	.73	....	.67	.77	.77	.73	.69	.75	.71	.77
24-24.9	.84	.80	.84	.86	.88	.84	.81	....	.84	.77	....	.80	.76	.81	.75	....	.69	.80	.80	.75	.71	.77	.73	.80
25-25.9	.86	.82	.86	.87	.91	.86	.83	....	.86	.79	....	....	.78	.82	.77	....	.71	.83	.82	.77	.73	.79	.76	.82
26-26.9	.88	.85	.88	.89	.93	.88	.86	....	.88	.81	....	....	.80	.84	.79	....	.73	.86	.85	....	....	.81	.77	.85
27-27.9	.90	.88	.90	.91	....	.90	.88	....	....	.83	....	....	.82	.86	.82	....	.76	.88	.88	....	....	.83	.79	.88
28-28.9	.92	.90	.91	.92	....	.92	.90	....	....	.85	....	....	.83	.88	.84	....	.78	.91	.90	....	....	.85	.81	.90
29-29.9	.94	.93	.93	.94	....	....	.92	....	....	.87	....	....	.85	.90	.86	....	.80	.94	.92	....	....	.87	.83	.92
30-30.9	.96	.95	.95	.95	....	....	.95	....	....	....	....	....	.87	.92	.89	....	.83	.97	.94	....	....	.89	.85	.94
31-31.9	....	....	....	.97	....	....	.97	....	....	....	....	....	.89	.94	.91	....	.85	.99	....	....	....	....	....	.95
32-32.9	....	....	....	.99	....	....	1.00	....	....	....	....	....	.91	.96	.93	....	.87	1.02	....	....	....	....	....	.96
33-33.9	....	....	....	....	....	....	....	$.99	....	....	$.95	....	.93	.98	.95	....	.89	1.04	....	....	....	....	....	.97
34-34.9	....	....	....	....	....	....	....	1.01	....	....	.97	....	.95	1.00	.98	....	.91	....	....	....	....	....	....	.98
35-35.9	....	....	....	....	....	....	....	1.03	....	....	.99	....	.97	....	1.00	....	....	....	....	....	....	....	....	.99
36-36.9	....	....	....	....	....	....	....	1.05	....	....	1.02	....	.99	....	1.02	....	....	....	....	....	....	....	....	1.01
37-37.9	....	....	....	....	....	....	....	1.07	....	....	1.05	....	1.00	....	1.04	....	....	....	....	....	....	....	....	1.03
38-38.9	....	....	....	....	....	....	....	....	....	....	1.08	....	1.03	....	1.07	....	....	....	....	....	....	....	....	....
39-39.9	....	....	....	....	....	....	....	....	....	....	1.11	....	1.05	....	....	....	....	....	....	....	....	....	....	....
40-40.9	....	....	....	....	....	....	....	....	....	....	....	....	1.07	....	....	....	....	....	....	....	....	....	....	....

Playa Del Rey prices f.o.b. their pipe line. Elwood Terrace prices f.o.b. ship.

Market Record of Active Oil Stocks Listed on New York Stock Exchange

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1935 High	1935 Low	Week ended Dec. 28 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends Paid in 1934	1934 High	1934 Low	1933 High	1933 Low
79½	48½	5,000	79½	77¾	79½	Amerada Corp.	788,675	N.P.	50cQ	10-31-35	$2.00	55⅝	39	47⅝	18½
28	20½	12,700	27¼	25⅝	25¾	Atlantic Refining	2,664,904	$25	25cQ	12-16-35	1.00	35¼	21½	32½	12⅝
14¾	5⅞	35,800	14¾	13⅞	13⅞	Barnsdall Corp. A	2,195,397	$5	15cQ†	2-1-36	....	10	5⅞	11	3
15¾	3⅜	64,600	14½	12¾	13½	Columbia Gas & Elec.	11,610,036	N.P.	20c	11-15-35	‡ .25	19¼	6⅝	28½	9
11	6½	70,100	11¼	11	11⅛	Consolidated Oil Corp.	13,996,072	N.P.	14c	10-31-34	.42	14¼	7¼	15¾	5
34⅞	15⅛	56,600	34⅞	31⅞	33	Continental Oil of Delaware	4,682,722	$5	25c	1-31-36	.50	22¾	15¾	19⅝	4⅞
22½	11¾	6,000	22	21	21	General Asphalt	387,149	$10	25c	12-17-35	....	23½	12	27	4⅝
7	1½	12,300	6½	6¼	6¼	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	5⅝	2½	7⅜	1⅞
19⅜	9½	29,500	19⅜	18⅜	19	Mid-Continent Petroleum	1,857,912	$10	25c	12-2-35	.50	14¾	9⅛	16	3¾
20⅞	9	3,100	19⅛	18⅛	18⅞	National Supply of Delaware	382,591	$25	....	5-15-31	....	21⅛	10	28⅝	4
14⅛	9¼	37,300	13⅝	13⅛	13¼	Ohio Oil Co.	6,563,377	N.P.	15cSA	12-14-35	.45	15⅞	8½	17⅝	4⅜
12½	6⅜	6,300	12½	11½	12	Pacific Western Oil	1,000,000	N.P.	40c	11-30-34	.40	9⅜	5½	9½	3
1⅞	½	800	1½	1⅛	1⅛	Panhandle P. & R.	198,770	N.P.	....	.....	....	2½	⅝	4¼	⅝
38⅞	13¾	44,200	38⅞	37¼	38¼	Phillips Petroleum	4,154,687	N.P.	25c†	11-30-35	1.00	20¾	13⅜	18⅜	4⅜
12¾	6½	13,100	12¾	12	12	Plymouth Oil Co.	1,050,000	$5	25c	3-30-35	75c & 4% Stk.	16¾	7¼	17⅝	6⅜
16¼	5⅞	34,000	16	15½	15½	Pure Oil Co.	3,038,370	N.P.	....	9-1-30	....	14⅞	6⅛	15⅜	2½
48⅜	29½	900	47⅜	46¼	47⅜	Royal Dutch N. Y. shares	fl. 503,642,000	fl. 100	$1.70	8-1-35	1.35	39⅛	28⅝	39¾	17⅝
35⅞	20¾	17,400	35	32⅞	34¼	Seaboard Oil of Delaware	1,244,283	N.P.	15cQ†	12-14-35	1.00	38⅜	20¾	43⅜	15
16½	5½	13,000	15⅝	15	15⅜	Shell Union Oil	13,070,625	N.P.	....	6-30-30	....	11½	6	11⅝	4
111	63⅛	400	110¾	110¼	110¼	Shell Union Oil pfd.	400,000	$100	....	7-1-31	....	89	57	61	28½
18¾	4¾	2,800	5⅛	5	5	Simms Petroleum	461,688	$10	1.25 liq.	10-18-35	.55	17⅛	7¼	12⅜	4⅞
20½	6½	10,700	20½	19¼	19¼	Skelly Oil	1,008,514	$25	....	12-15-30	....	11½	6	9⅞	3
15¾	10⅝	92,300	14¼	13⅝	13¾	Socony-Vacuum	31,154,379	$25	15cQ	9-16-35	.60	19⅞	12½	17	6
38⅞	27¾	36,000	38⅝	37⅛	38⅝	Standard Oil of California	13,102,900	N.P.	25c	12-15-35	1.00	42⅞	26½	45	19½
31⅛	23	18,250	30⅞	30⅛	30⅝	Standard Oil (Indiana)	15,215,677	$25	25cQ	12-16-35	1.00	32¾	23¼	34	17
32	20	1,100	29	28	29	Standard Oil of Kansas	200,000	$10	50cQ	10-31-34	2.00	41	26	39⅞	12¾
50½	35¾	37,400	49¼	48½	48⅝	Standard Oil of New Jersey	25,856,081	$25	50cSA†‖	12-16-35	1.25	50⅛	39¼	47½	22¾
77	60½	1,200	71¼	69	69	Sun Oil	1,733,013	N.P.	25c¶	12-16-35	$1 & 9% Stk.	74¼	51½	59	35
29½	16½	63,900	29½	28	28½	Texas Corp.	9,486,417	$25	25cQ	1-1-36	1.00	29⅜	19⅝	30⅛	10⅜
9¼	3¼	9,600	8⅛	7½	7½	Texas Pacific Coal & Oil	880,703	$10	....	12-31-29	....	6½	2½	6½	1⅜
14⅞	7⅝	41,700	14⅞	14⅛	14½	Tide Water Associated	5,631,341	N.P.	25c	1-15-36	....	14⅜	8	11¾	3⅛
104½	84	2,200	101	99½	100	Tide Water Associated pfd.	666,524	$100	$3‖	1-2-36	‖8.50	87	64½	65¼	23½
22¾	14¾	7,700	22¾	22	22½	Union Oil of California	4,386,070	$25	25cQ	11-9-35	1.00	20½	11½	23⅝	8½
26½	20¼	600	22	21⅝	22	Union Tank Car Co.	1,200,000	N.P.	30cQ	12-2-35	1.20	25¾	15⅝	22¾	10½
3⅛	1	800	2¾	2⅝	2⅝	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	5¾	2	5½	2

•Ex-dividend. †Plus extras. ‡Payable in preferred stock. §On account of accumulation. ‖Dividend 4/75 Mission Corp. paid 3-15-35. ¶and 7 per cent stock.

Market Record of Active Oil Stocks Listed on New York Curb

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1935 High	1935 Low	Week ended Dec. 28 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends Paid in 1934	1934 High	1934 Low	1933 High	1933 Low
13⅝	3¾	5,100	13⅝	12¼	13½	Bridgeport Machine Co.	150,000	N.P.	....	5-1-30	....	3¾	½	1½	¼
42½	30½	100	40	39½	39½	Buckeye Pipe Line Co.	200,000	$50	75cQ	12-14-35	$3.00	38	26	29¾	25
4¼	1⅝	7,800	2¾	2¼	2⅜	Carib Syndicate	799,020	25c	....	.....	....	5½	1½	7⅜	¼
157	115	210	119¾	115	118	Chesebrough Mfg. Co.	120,000	$25	$1Q†	12-27-35	11.50	150	116	129	71
3¼	¾	205,200	3¼	2¾	3⅛	Cities Service	37,804,394	N.P.	....	6-1-32	....	4¼	1¼	6¼	1½
2⅛	½	10,500	1⅜	1	1¼	Colon Oil	2,200,000	N.P.	....	.....	....	3¼	½	4	¼
1½	¼	7,300	1⅜	1	1⅜	Cosden Oil	399,687	$1	....	.....	....	3⅞	½	3⅞	1⅜
23¾	10	29,700	20½	19⅛	20	Creole Petroleum	6,974,356	$5	20c	12-31-35	....	14⅜	9⅝	12	4⅜
8⅝	4	2,900	8⅝	7¾	7¾	Darby Petroleum	509,696	$5	25cSA	1-15-36	.50	7½	4⅛	8	2⅛
2	⅝	200	1¾	1¾	1¾	Derby Oil & Refining	263,162	N.P.	....	.....	....	2¼	1	2¾	⅞
38	34	No sales ..	..	..	..	Eureka Pipe Line	50,000	$50	$1Q	8-1-35	4.00	37	30	41¾	20
74⅜	50¼	9,000	73	68	68	Gulf Oil Corp.	4,538,101	$25	....	10-1-31	....	76¾	49¾	62	24
64	44	10,250	61	59	59¼	Humble Oil & Refining (new)	8,923,935	N.P.	25cQ	10-1-35	§1.25	49½	33¼	105½	40
22½	15⅝	19,900	19⅞	18⅞	19	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	12-2-35	.92½	17⅞	12⅝	15⅞	6½
6¼	3⅝	500	5⅜	5⅜	5⅜	Indiana Pipe Line	300,000	$10	15cSA†	11-15-35	.35	6⅞	3⅝	8	3⅛
39¾	28	14,400	34⅛	32⅞	33¼	International Petroleum	14,247,088	N.P.	$1.25†‡	12-2-35	2.28	33⅜	19⅜	23½	8⅞
11⅝	4⅜	20,600	10⅛	9¾	9⅞	Louisiana Land & Exp.	3,000,000	N.P.	....	.....	....	5	2⅛	2¼	⅝
8¼	3½	200	7	7	7	Lion Oil Refining	270,000	N.P.	....	10-27-30	....	6	3⅜	9½	1¼
10⅞	4½	3,200	9⅞	9⅝	9¾	Lone Star Gas	5,382,723	N.P.	20cSA	1-15-36	‖ .16	8⅜	4¼	11⅞	4⅝
5¾	4⅛	1,700	5	4⅞	5	Mountain Producers	1,682,182	$10	30cSA	12-31-35	.60	5½	4	6½	2⅛
20	11¾	4,000	19⅜	18¾	19¼	National Fuel Gas	3,810,183	N.P.	25cQ	1-15-36	1.00	18⅛	13⅛	20	10
10⅝	6¼	1,400	10⅝	10	10⅜	National Transit	509,000	$12.50	35cSA	12-16-35	.75	9½	7	10	5½
3¼	2	700	3	2⅞	3	New Bradford Oil	1,445,202	$5	10cSA	9-16-35	.20	2½	1¾	2⅛	½
2½	1	700	2	1⅝	1⅝	New Mexico and Arizona	1,000,000	$1	....	.....	....	2¾	1	1⅜	½
4⅞	3	No sales ..	..	..	..	New York Transit	100,000	$5	15cSA	4-15-35	.30	4¾	3	4⅞	3
8	5¼	No sales ..	..	..	..	Northern Pipe Line	120,000	$10	25cSA	2-2-36	.50	7	4⅝	6⅛	4⅛
4⅜	1¼	24,600	3¼	3	3⅛	Pantepec Oil	1,608,700	N.P.	....	.....	....	2⅝	⅞	3¾	½
2½	⅝	200	1¾	1⅝	1⅝	Ryan Consolidated	296,931	N.P.	....	.....	....	3⅜	⅞	4¼	⅝
7½	5½	2,600	6¾	6½	6⅝	Salt Creek Producers	1,496,859	$10	40cSA	12-31-35	.80	7⅞	5½	9¼	3½
32¾	21⅝	2,200	32¾	32⅛	32¾	South Penn Oil	1,200,000	$25	30cQ	9-30-35	1.20	26½	17½	22⅛	11
5	3⅞	No sales ..	..	..	..	Southern Pipe Line	100,000	$10	15cSA	9-3-35	.25	5½	3½	6	2⅛
56	44¼	No sales ..	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	$1Q†	12-31-35	5.00	47	41	43	24½
24	18	200	21¼	20⅞	21	Standard Oil of Kentucky	2,604,790	$10	25cQ†	12-14-35	1.50	18⅜	14⅝	19¼	8⅜
12	7¾	No sales ..	..	..	..	Standard Oil of Nebraska	188,403	$25	....	6-20-34	.50	16⅞	8¼	20½	11
23⅝	11½	1,800	22	21¼	21¼	Standard Oil of Ohio	753,740	$25	....	1-3-33	....	28½	12¼	41	15½
2⅞	⅞	8,400	2⅝	2⅜	2½	Sunray Oil	1,610,810	$1	....	4-15-31	....	2	1‡	1½	¼
4⅜	2½	10,300	4⅝	4⅜	4½	Texas Gulf Producing Co.	888,041	N.P.	....	12-29-34	10% Stk.	7	3⅜	6½	3¾
6⅞	5	800	6	5¾	5⅜	Texon Oil & Land	336,028	N.P.	15c	12-30-35	.90	11	4⅜	13¾	6¼

•Ex-dividend. †Includes extras. ‡Payable in Canadian funds. §Includes 50 cents on old $25 par value stock. ‖Payable in preferred stock.

Note.—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

Maloney Tanks Made With Heavy Galvanized Coating

The Maloney Tank Manufacturing Co., of Tulsa, has announced that Maloney bolted steel tanks of all standard A.P.I. sizes may now be ordered with a special heavy galvanized coating, for added resistance to corrosion.

Maloney galvanized tanks, it is stated, are standard Maloney tanks of Keystone copper steel,

hot-dip galvanized after fabrication. Galvanizing is being done at the new West Tulsa plant of the Rogers Galvanizing Co. Sheets and other parts first are given a prolonged bath in muriatic-acid solution to prepare the surfaces for bonding tightly with the zinc coating. Virgin zinc 99.9 per cent pure is then applied by the hot-dip process, the spelter weighing 5 pounds to 100 pounds of steel coated. It is stated that galvanizing after fabrication avoids injury to the galvanized coating, as well as galvanizing all edges of sheets including bolt holes. Finished coatings are said to be of highest standard, withstanding the severe Preece test of six 1-minute dips in copper sulfate solution. Special hot-dip galvanized bolts of 90,000 pounds tensile strength are used.

Bulletins, Booklets and Other Literature for the Trade

A four-page bulletin available from the Roto Co., 145 Sussex Avenue, Newark, N. J., describes the Roto Junior air-driven cleaners for small tubes.

A 24-page booklet on Lukens nickel-clad steel for corrosion resistance may be obtained by writing Lukens Steel Co., Coatesville, Pa.

Worthington horizontal duplex piston pumps, Worthington centrifugal pumps and Worthington rock hammers are the subjects of three new bulletins offered by Worthington Pump & Machinery Corp., Harrison, N. J.

A 40-page booklet prepared by the Hobart Brothers Co., Troy, Ohio, carries the reader on a pictured trip through the company's modern arc-welder factory.

Enterprise electric alternators for intermittently alternating electrical circuits, such as two-pump motors, magnetic valves, oil burners, etc., are described in a bulletin from Enterprise Foundry Corp., 2900 Nineteenth Street, San Francisco.

"Shooting the Well" is the title of an interesting article in the current issue of the Yellow Strand, published by Broderick & Bascom Rope Co., St. Louis, Mo.

The Timken Roller Bearing Co., Canton, Ohio, has published a 12-page booklet on "The Application of Timken Tapered Roller Bearings on Engine Crankshafts." It discusses the advantages of Timken bearings in reducing operating friction, simplifying starting in cold weather, and eliminating piston and cylinder wear by assuring accurate crankshaft alignment under load.

A 12-page pamphlet prepared by Republic Steel Corp., Massillon, Ohio, contains a fund of condensed information on rust-resisting Toncan copper molybdenum iron, including its physical properties and physical constants.

Three bulletins sent on request by the Bovaird Supply Co., Tulsa, are No. 26, Bovaird stroke post; No. 27, Bovaird knockoff; No. 28, Bovaird swing, hold-down, hold-up, hold-over roller rod-line carrier.

The Manhattan Rubber Manufacturing Division of Raybestos-Manhattan, Inc., Passaic, N. J., has issued a new catalog describing its line of Condor industrial friction materials.

The Superheater Co. of New York and Chicago has issued its catalog 20,001-1 on the Elesco non-sparking tools, designed to prevent sparks, with attendant fire or explosion where there are inflammable or explosive gases.

Catalog 417, sent on request by Jeffrey Manufacturing Co., Columbus, Ohio, covers chains, sprockets, transmission machinery, spiral conveyor, elevator and conveyor parts, along with all other Jeffrey materials-handling equipment parts.

Men Widely Known in the Equipment Field

S. K. Burgess has been made vice president and assistant general manager of Alford Sales & Service, Ltd., Long Beach, Calif. Mr. Burgess, whose connection with the oil industry dates back to 1907, is familiar with production and sales

S. K. BURGESS

work in connection with the manufacture of pumps and sucker-rods. He served as secretary-treasurer and a director of the D. + B. Pump & Supply Co. until that company was purchased by Emsco Derrick & Equipment Co.

High Accuracy in Bottom-Hole Pressure Gauging Possible

Higher standards of accuracy in bottom-hole pressure measurement are made possible with the new Stupakoff bottom-hole pressure gauge, manufactured by Stupakoff Laboratories, 6627 Hamilton Avenue, Pittsburgh, Pa. This instrument gives a permanent record of these pressures said to be accurate to 2 per cent, equal to 3 pounds on a 1,500-pound well. Crude oil pressure is transmitted through a series of bellows, and measurements are recorded on a revolving aluminum chart. In the Stupakoff gauge the total energy available varies from 150 to 450 inch pounds. This permits sturdy mechanical construction without any losses due to friction drag.

The gauge is made in five sections. The top section need be opened only to attach or release the lifting wire. The second section houses a maximum-temperature thermometer which is used for correcting the chart readings. The third section contains the clockwork used to revolve the chart. The upper section of this joint is the only one that needs to be repeatedly opened. It gives access to both the clock and the thermometer.

Two types are available, indicating and recording. For the recording type a special comparator microscope has been designed for the purpose of accurately reading the pressure record scratched on the aluminum chart.

Overall length of the instrument is 60 inches; outside diameter, 1¾ inches; weight, 35 pounds. Separate instruments are made for maximum pressures of 1,000 pounds, 1,500 pounds, 2,000 pounds and 3,000 pounds.

Sling Thimbles Same Size, But Pass Through Each Other

A new type of thimble for wire-rope slings is announced by Macwhyte Co., Kenosha, Wis. The same size thimble is used on both ends of the sling and yet either thimble passes freely through the other, making it possible to use the same sling for both choker and basket hitches.

It is said this new thimble design steps up production by making loads easier to handle, and also gives longer life to slings used on choker hitches. Either end of the sling may be attached to the crane hook and by using first one end and then the other, two wearing points in the body of the sling are provided. When two sizes of thimbles are required, there can be only one wearing point.

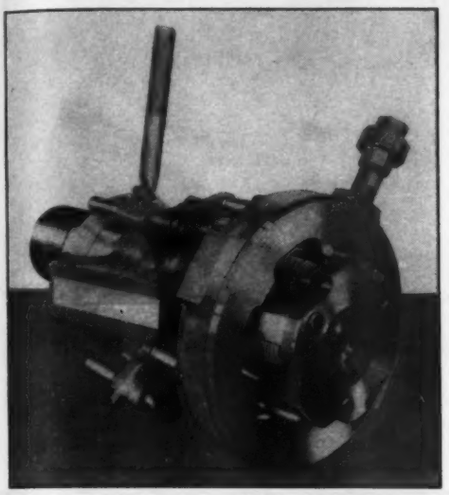
Heavy-Duty Brake Lining

A recent advance in the field of heavy-duty friction materials is Johns-Manville style No. 900 woven and compressed brake lining. This product has been introduced after several years of experimentation and development in the J-M laboratory and in the field. It has had test use on gas and diesel friction power shovels and other excavating machinery for the past year with outstanding suc-

cess. Now it is being offered for general use on all kinds of heavy industrial equipment. Woven and compressed lining incorporates the fundamental structure of the solid woven lining with the high wearing qualities of the compressed styles.

Oiling Type Trip Ring for Taps Put on Market by Landis

To insure a sufficient supply of lubricant for its line of collapsible taps the Landis Machine Co., Waynesboro, Pa., has placed on the market an oiling type of trip ring to replace the type



usually employed on a collapsible tap. When tapping any threads, particularly long threads of large diameters in steel, it is very essential to maintain an ample supply of lubrication to dissipate the heat and wash away the chips.

The illustration shows one of these new rings applied to a 6-inch Landis style LM receding chaser collapsible tap. The ring consists of a hollow housing with steel plates mounted on the front and the back, thus forming a reservoir for holding the lubricant. On the smaller sizes of rings the housing is made of cast iron and in order to lessen the weight the housing for the larger rings is made of aluminum. The front ring which contacts the work to effect the receding and collapsing action of the tap is made of steel and case carburized to resist wear.

Holes are placed diagonally in the housing through which a stream of oil is forcibly directed upon each chaser throughout the entire length of the cut, thus insuring ample lubrication at the point where it is needed.

A supply pipe with union connection is provided for attaching the supply hose. The housing of the trip ring remains stationary while the front and back plates will turn with the tap if the tap must revolve for tapping the thread. These rings are available for use with Landis style LM receding chaser and style LT collapsible tap 6-inch size and larger.

Here and There With Men Who Manufacture Equipment

J. C. Chambers has been made factory representative for Cummins Engine Co. in Fort Worth, Tex. Mr. Chambers has spent the last nine years in the company's sales and service departments with headquarters in Columbus, Ind.

Pittsburgh Equitable Meter Co. has added two members to the research and product development section of its engineering department in Pittsburgh, Pa., E. M. Cloran, Harvard, 1928, and H. J. Evans, University of Oklahoma, 1933.

Detroit Graphite Co. has appointed E. C. Roberts vice president in charge of sales.

G. E. Gaddis, credit manager for American Can Co. for many years, has been transferred to the general sales department, with the title of special representative. His headquarters will be in the New York office. E. V. Evans becomes credit manager.

General Refractories Co. has appointed Bird-Archer Co., Philadelphia, Pa., as dealer agent in the Philadelphia area.

Lucey Products Corp. has opened a new store at Stonewall, Okla., 12 miles southeast of Ada, in the center of the southeasterly trend of the Fitts pool. The Ada store is closed, but the property will be used for distributing warehouse and pipe storage.

The Cleveland, Ohio, district sales office of Republic Steel Corp. has been removed from the Union Trust Building to 920 Republic Building. W. E. Collier is manager.

Adaptation of Old Product

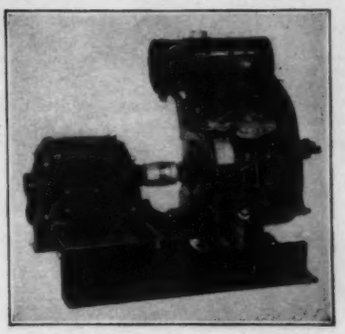
American Sand-Banum Co., Inc., 342 Madison Avenue, New York, reports it has found a modification of its "Sand-Banum Standard" provides an excellent water-cooling system treatment for automobiles. This product, "Sand-Banum Special," a pure vegetable concentrate composed of tropical resins, is said to eliminate dirt, rust, scale and corrosion from the automotive radiator and its parts by virtue of its colloidal action. It is said by the manufacturer to be harmless to all parts of the car with which it comes in contact. It is made in tablet form packed in a small tube.

Roe Pay Underdigger

The Bridgeport Machine Co., Wichita, Kans., has acquired manufacturing and distributing rights on the Roe pay underdigger, which has been developed after several years of research and experimental work. The function of this tool is to enlarge the pay formation of sand wells, as well as to enlarge the pay area of lime wells before acidation. The company is getting under way with production of the new tool.

Light Plant for Oil-Field Use Is Being Introduced by Moon

The Moon Manufacturing Co., 112 North Jefferson Street, Chicago, has developed a new gas-electric lighting plant for oil field service. This new model, the type M, is available in two sizes, 1 K.W. and 1½ K.W., 110 volt D.C. It has been built to handle the smaller types of jobs such as light spudding machines, standard tool rigs, standard drilling-in equipment, cleaning-out operations and many other jobs where only a comparatively small amount of light is required.



These plants are compact and weigh only 245 pounds, measuring 29" x 19". At the same time they are rugged in construction and powered with an air-cooled gasoline engine of generous capacity. They can be equipped to operate on natural gas if desired.

Electrode for Stainless Steels

A new arc-welding electrode for welding the group of stainless steels belonging to the 25-12 variety is announced by the Lincoln Electric Co., Cleveland, Ohio. Because of its higher chrome content the new electrode is said to be particularly advantageous for welding stainless clad steels.

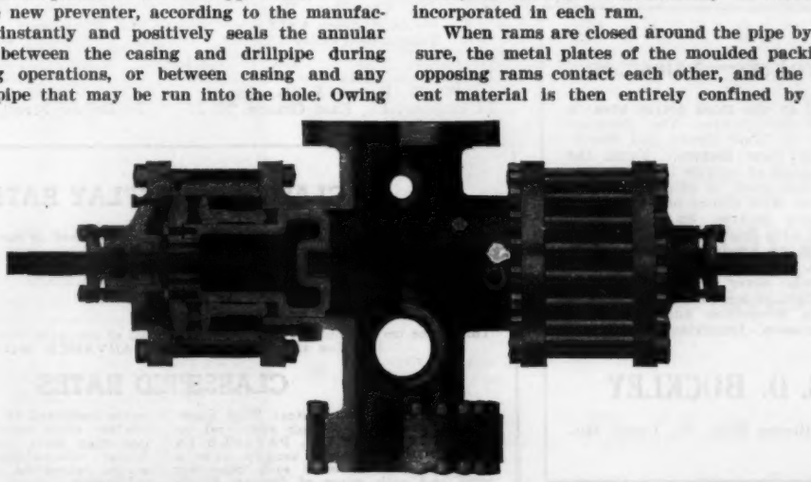
Blowout-Preventer Makes a Positive Seal

Cameron Iron Works, Inc., Houston, Tex., is now making deliveries on type SDA (short double acting) pressure-operated blowout-preventers, its latest development in the ram-type field.

The new preventer, according to the manufacturer, instantly and positively seals the annular space between the casing and drillpipe during drilling operations, or between casing and any other pipe that may be run into the hole. Owing to the design of the new ram packing element, the seal is said to be so positive that the drillpipe may be rotated and raised and lowered through the closed rams for hours to prevent sticking while circulating to regain control of a well. The ram packing element consists of a solid moulded block of special resilient material, supported on its upper and lower faces by substantial steel plates as illustrated.

When snapped into place in the rams, where it is securely held by steel dowel locking-pins moulded integral with the packing, the packing element and supporting plates project beyond the face of the ram approximately five-sixteenths inch. The packing material is entirely confined by steel, except on the surface which contacts the pipe. In this manner, a reservoir of packing material, which feeds automatically as needed, is incorporated in each ram.

When rams are closed around the pipe by pressure, the metal plates of the moulded packing in opposing rams contact each other, and the resilient material is then entirely confined by steel.



Upon application of further pressure (fluid or manual) the packing tends to flow to the pipe, thereby effecting a positive, leakproof shutoff. Wear on packing is taken up by the new packing element, and a pressure-tight seal assured.

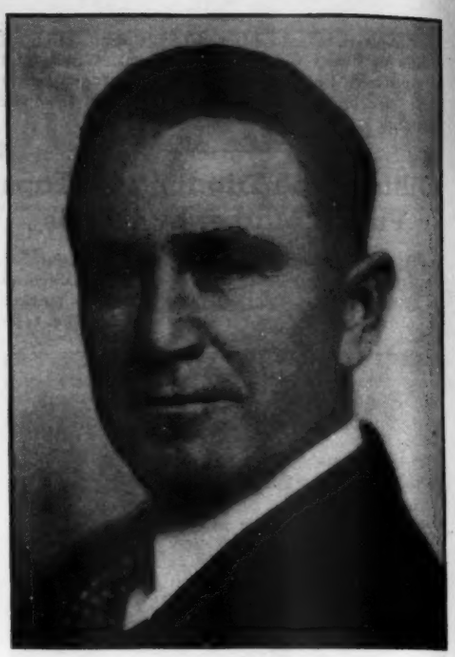
Rams of the SDA preventer automatically center the pipe to be sealed, no matter how much it is hanging off vertical. They are longer than previous Cameron rams and can safely support long strings of pipe. The ram piston permits use of a shorter pressure cylinder, which substantially reduces overall length of the preventer and makes handling easier. Rams are opened and closed instantly by fluid pressure.

HARRY J. MORLANG

Effective January 1, 1936, H. J. Morlang has been appointed vice president of National Tube Co. in charge of sales of oil country goods, with headquarters at Dallas, Tex. Mr. Morlang was formerly vice president of Oil Well Supply Co., Dallas, Tex.

W. F. McCONNOR

Effective January 1, 1936, W. F. McConnor has been appointed general manager of sales of the National Tube Co. with headquarters at Pittsburgh, Pa. Mr. McConnor was formerly assistant general manager of sales of National Tube Co.



J. E. GOBLE

Effective January 1, 1936, J. E. Goble has been appointed vice president in charge of sales of the National Tube Co. with headquarters at Pittsburgh, Pa. Mr. Goble was formerly manager of export division of Oil Well Supply Co., New York City.

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BROKERS-Salesmen-Wholesale-Retail. New deal—New Deck—New cut—Different. Best yet. Write Earnhardt & Davis, 1211 Santa Fe Building, Dallas, Texas.

PRODUCING OIL ROYALTIES
(ALL FIELDS)
Bought, Sold and Quoted.
HENRY L. BAKER CO.
207 Van Nuys Bldg.,
Los Angeles, Calif.
Telephone Trinity 7391.

VAN POOL — EAST TEXAS
Bought — Sold — Wholesale.
W. R. Brown & Co., Inc.
14 Prospect Pl., East Orange, N. J.

Royalties—Production

BETTER CLASS
MONTHLY PAYING ROYALTIES
Quoted Dealers Exclusively.
W. E. COOK
Suite 812, Palace Bldg., Tulsa, Okla.

WITWER'S OIL ROYALTIES
Producing & Non-Producing.
L. H. Witwer
P. O. Box 2453 Tulsa, Okla.
565 First Natl. Bldg., Okla. City, Okla.

Producing and Non-Producing Royalties.
Bosco, Van, Rodessa, West Texas.
Wholesale — Retail.
W. E. HOUSEL
76 Beaver Street, New York City.

Royalties—Production

PRODUCING OIL ROYALTIES
for dealers.
H. P. BOWEN
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Van—East Texas—Louisiana Royalties Bought—Sold.
WILLIAM MONROE LAYTON
67 Wall St., Suite 1510, New York City.

PRODUCTION, Royalties or leases, direct from owners, any part Texas Panhandle. Put your cards on with me and I will be glad to give you full benefit of my knowledge of values, etc., gained from 30 years' trading in this territory. Confidential reports can be had on any property very reasonable. E. B. Reeves, Box 475, McLean, Gray Co., Texas.

1200 ACRES for sale in McCurtain County, Oklahoma, where next oil play will be. In tracts of 40 acres $2.50 per acre; 80 acres, $2.00 per acre; 160 acres, or more $1.50 per acre. Good title, taxes paid. Luther Calahan, Idabel, Oklahoma.

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ROYALTY spreads under drilling wells, Production, Leases, Kans., Okla., Texas. Merit Royalties, R. No. 3, Topeka, Kans.

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ROY A. HILLSTROM
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Bought (Wholesale) Sold.
Inquiries invited from Oil Companies, Bankers, Dealers.
JOHN J. KOEHLER
20 Broad St. New York.

ROYALTY lots Oklahoma City and Britton oil fields. $100 and up. Write or wire G. E. Fisher & Co., Key Building, Oklahoma City, Oklahoma.

ROYALTIES and leases in all fields, producing and nonproducing, Kans., Okla., Tex. Get my list before buying. JAMES R. HAYNES, Grantville, Kans.

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	1 time	$5.00
1 Inch	13 times	4.50 per inch
1 Inch	26 times	4.00 per inch
1 Inch	52 times	3.50 per inch

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY

CLASSIFIED RATES

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line. PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgment is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times
3 Lines	$1.05	$1.80	$2.55	$3.30
4 Lines	1.40	2.40	3.40	4.40
5 Lines	1.75	3.00	4.25	5.50
6 Lines	2.10	3.60	5.10	6.60
7 Lines	$2.45	$4.20	$5.95	$7.70
8 Lines	2.80	4.80	6.80	8.80
9 Lines	3.15	5.40	7.65	9.90
10 Lines	3.50	6.00	8.50	11.00

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

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Tulsa, Oklahoma